ELKA

X 705

schematic diagrams

ELKA

(1) 410CST0771 - Matrix for flutes filters

(2) 410CST0757 - Upper drawbars

(3) 410CST0730 - Solo variations

(4) 410CST0760 - Percussion register

(5) 410CST0761 - Upper manual register

(6) 410CST0748 - Upper keyboard contacts assembly

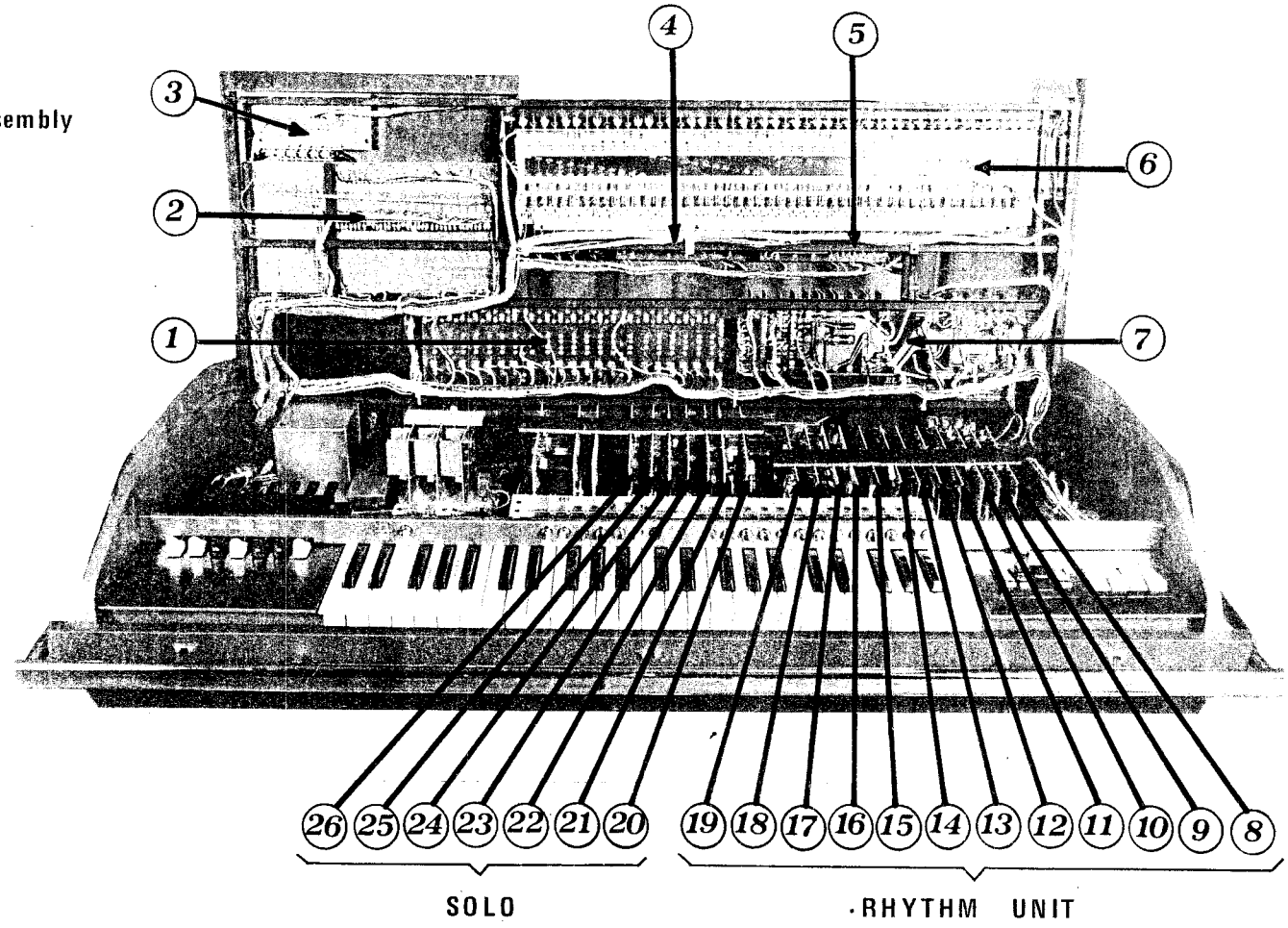
(7) 410CST0783 - Matrix

(8) 410CST0735 A
(9) 410CST0735 B
(10) 410CST0735 C
(11) 410CST0736
(12) 410CST0737
(13) 410CST0738
(14) 410CST0739
(15) 410CST0740
(16) F000576
(17) F000577
(18) 410CST0741
(19) 410CST0742

RHYTHM UNIT

(20) 410CST0722 - Encoder
(21) 410CST0723 - Decoder
(22) 410CST0724 - Wave form generator
(23) 410CST0725 - Vibrato telstar pitch bend
(24) 410CST0726 - VCA - VCF controls
(25) 410CST0727 - Timbre control
(26) 410CST0728 - VCA - VCF

SOLO



(1) 410CST0750 - Lower drawbars

(2) Transformer

(4) F000627 - Power supply + 12V

(5) 410CST0751 - Pedal bass-Manual bass

(6) F000627 - Power supply – 12V

(7) F000627 - Power supply – 27V

(8) 410CST0770 - Matrix for power supply

(9) 410CST0753 - Presets push-botton assembly

(10) 410CST0753 - Solo push-botton assembly

(11) 410CST0748 - Lower keyboard contacts assembly

(12) 410CST0756 - Elkatone and vibrato register

(13) 410CST0717 - Strings memorization

(14) CST0934- Master oscillator and dividers

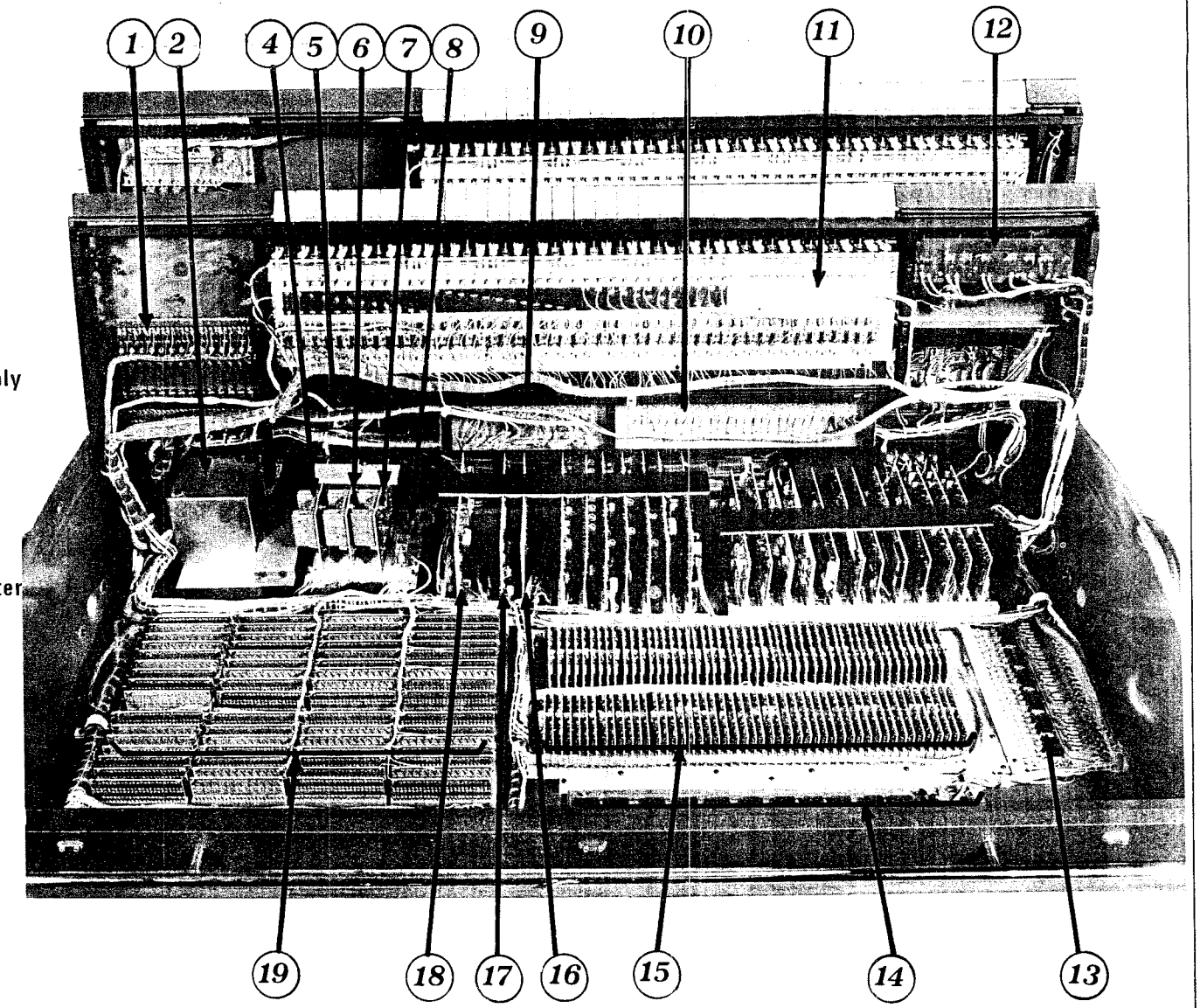
(15) F000589 - Piano strings switches

(16) 410CST0871

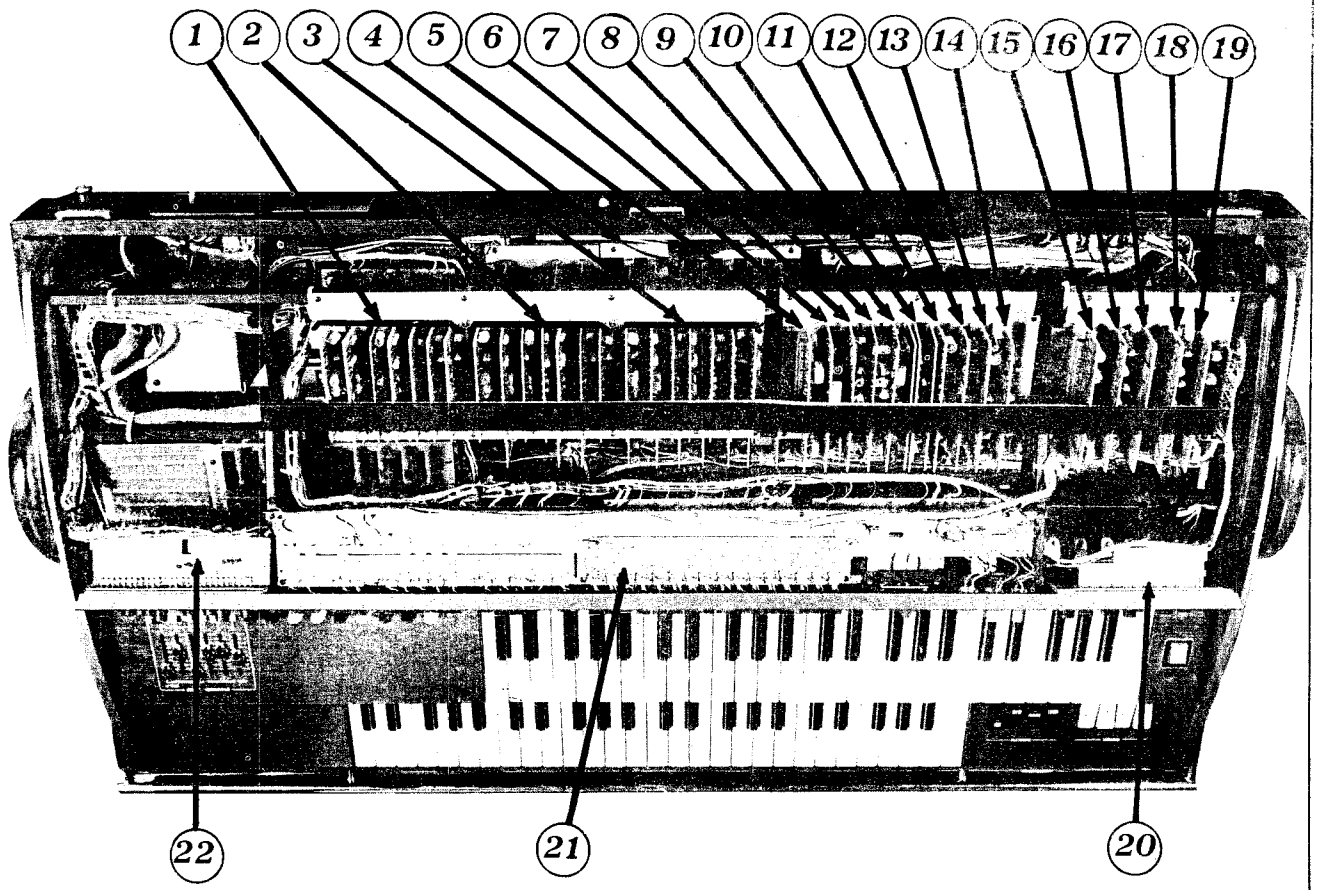
(17) 410CST0718 - Bass selector

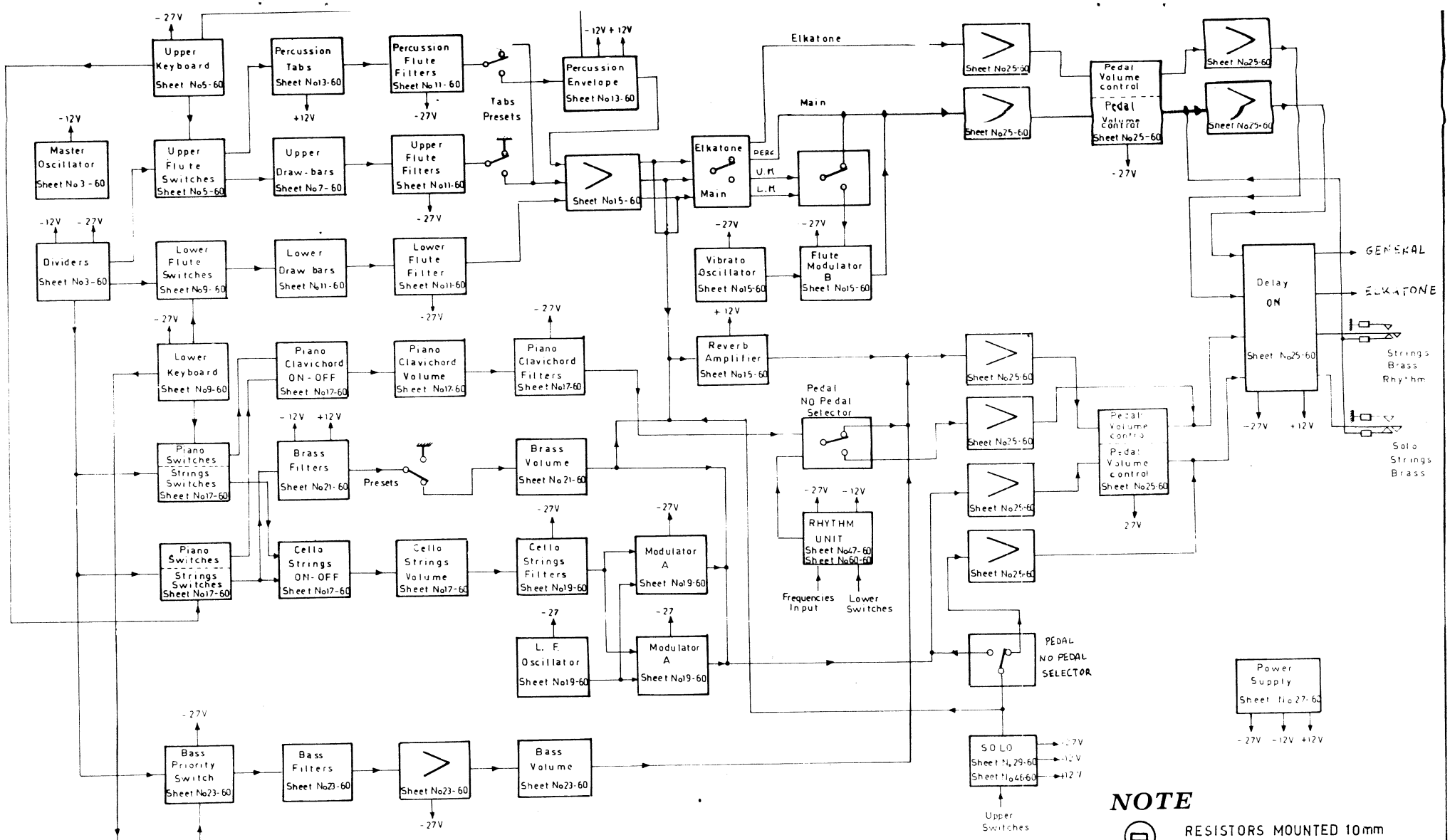
(18) 410CST0720 - Brass

(19) Flutes switches



1. F000445 - Upper keyboard flutes filters
2. F000445 - Percussion and presets filters
3. F000445 - Lower keyboard flutes filters
4. Reverb unit
5. 410CST0779 - Preamplifier
6. 410CST0782 - Percussion
7. 410CST0781 - Reverb amplifier
8. 410CST0774 - Vibrato
9. 410CST0773 - Flute Modulator B
10. 410CST0776 - Strings filters
11. 410CST0773 - Modulator A
12. 410CST0773 - Modulator A
13. 410CST0772 - Low frequency oscillator
14. 410CST0775 - Piano clavichord filters
15. 410CST0896 - Preamplifier B
16. 410CST0926 - Expression pedal control A
17. 410CST0777 - Delay on
18. 410CST0926 - Expression pedal control B
19. 410CST0896 - Preamplifier B
20. 410CST0762 - Sustain controls
21. 410CST0744 - Rhythm an automatic on-off
22. 410CST0765 - Volumes





Transistors	Equivalents
BC 171	BC 173 - BC 108 - BC 208 - BC 209
BC 173	BC 109 - BC 209 - BC 239
BC 415 B	BC 205 B - BC 308 B
BC 415 C	BC 205 C - BC 308 C
BC 205 C	BC 308 C
BC 308 C	BC 205 C

All diodes are FDH 9439 Fairchild or BA 130

N. B.

1 The firm reserves the right to make changes without any warning and to their own discretion

2 The tensions are measured when the instrument is turned on but not played

NOTE

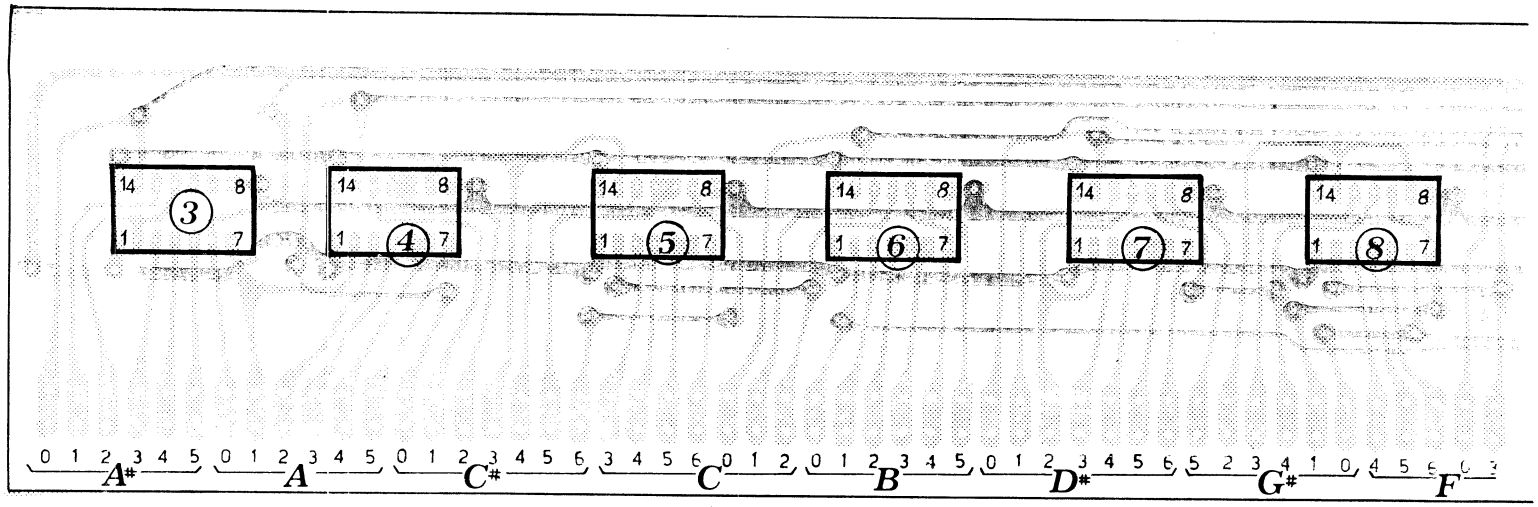
RESISTORS MOUNTED 10mm ABOVE BOARD

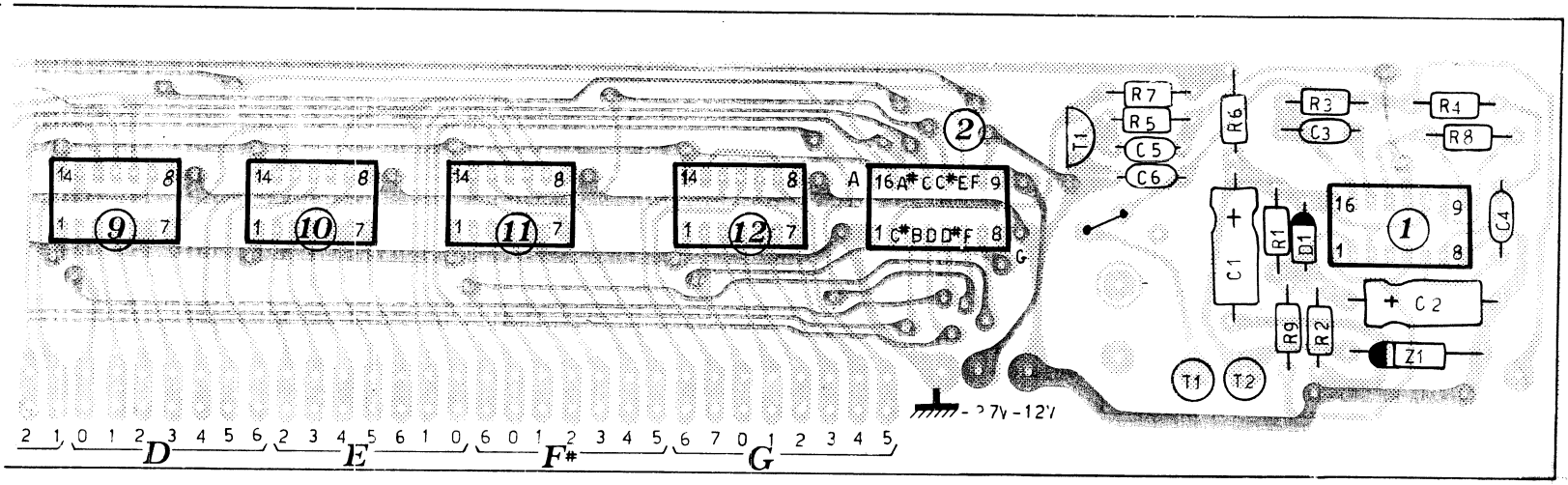
NON INFLAMMABLE RESISTORS MOUNTED 10mm ABOVE BOARD

1/2W RESISTORS

Designed by Luigi Marmi			
Drawn by Vito Cosmo	Checked by Raffaele Pinto	Model X 705	Object: Block Diagram
			Sheet No 1 - 60
			Date 10 - 10 - 77

410CST0934 (+27GR05843)

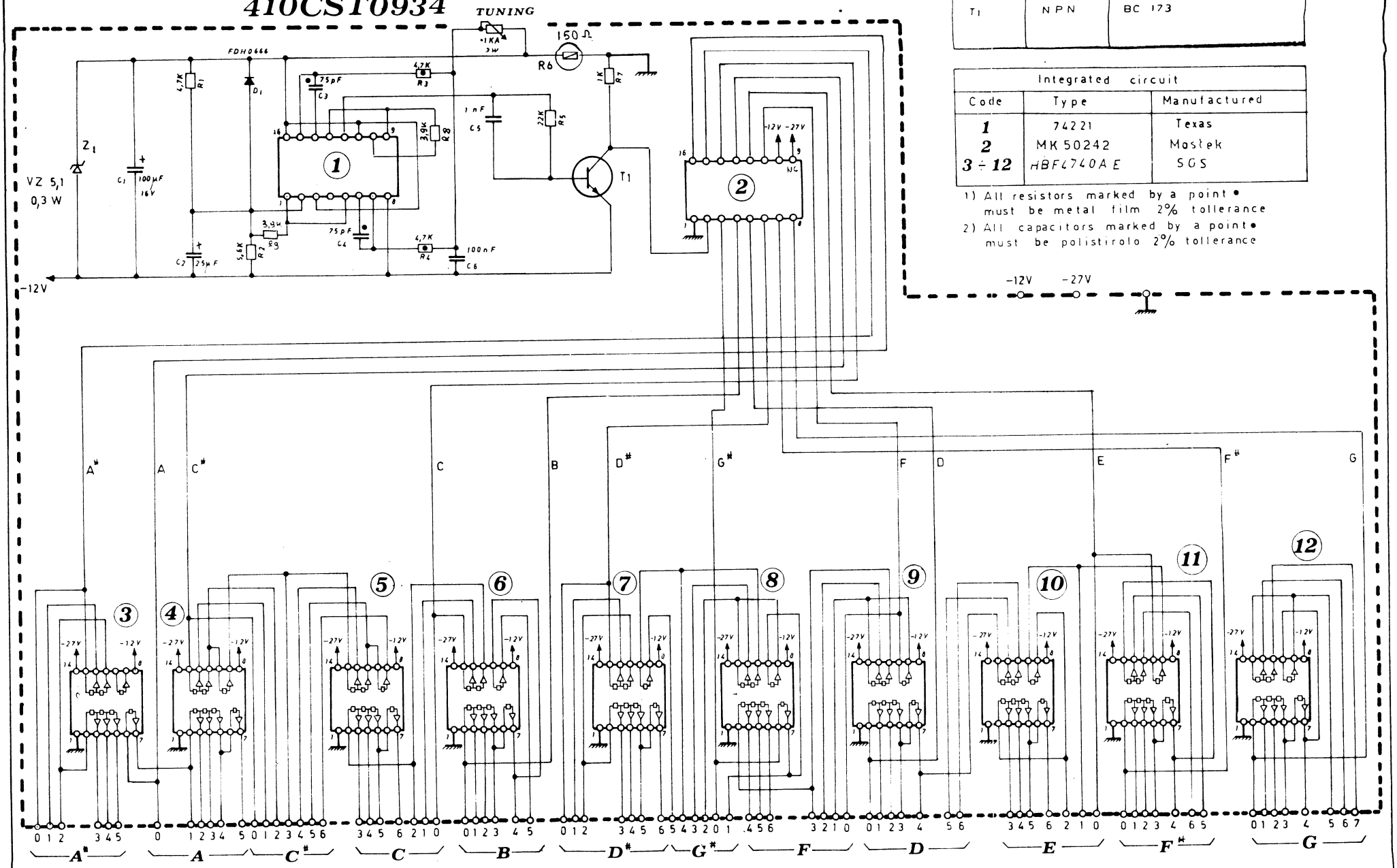




Model X705	Object Assembly of Printed Circuit	Sheet No 2-60	Date 8-9-78

THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS

410CST0934



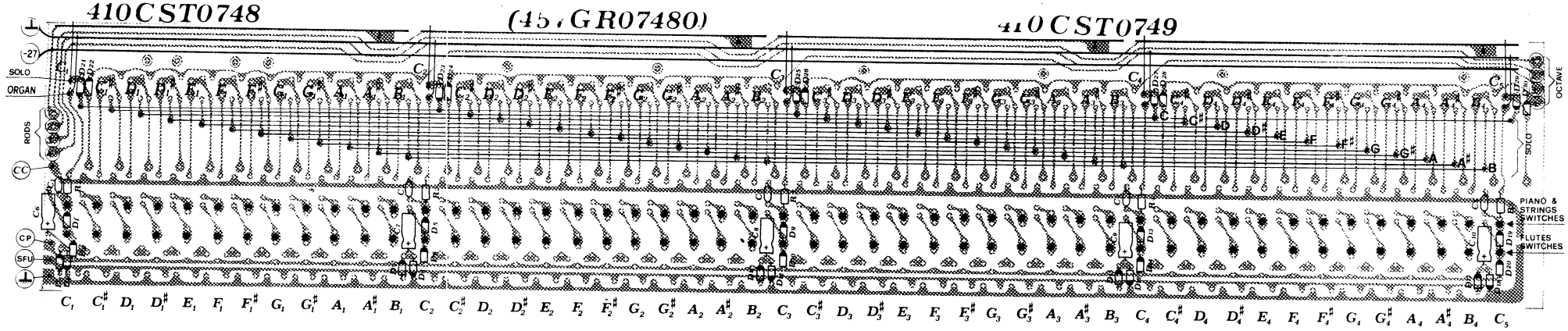
Code	Type	Transistors
T1	NPN	BC 173

Integrated circuit		
Code	Type	Manufactured
1	74221	Texas
2	MK 50242	Mostek
3 ÷ 12	HBF4740A E	SGS

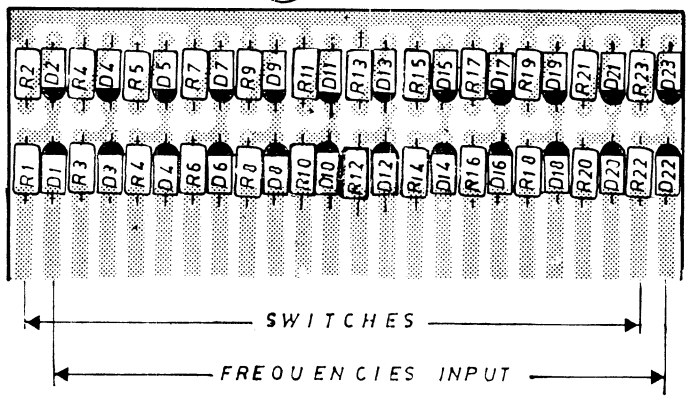
1) All resistors marked by a point • must be metal film 2% tollerance
2) All capacitors marked by a point • must be polistirolo 2% tollerance

	Model	Object	Sheet
	X 705	Master oscillator and Dividers	No 3-60
			Date 3 2 77

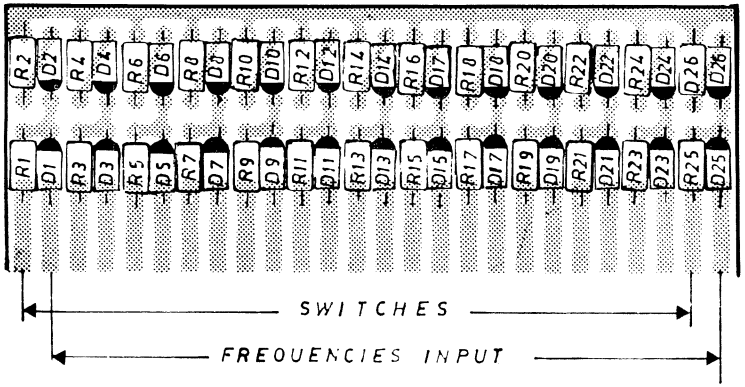
410CST0748 (45 GR07480) 410CST0749


SOLO
ORGAN
RODS
OCTAVE
PIANO & STRINGS SWITCHES
FLUTES SWITCHES
C1 C#1 D1 D#1 E1 F1 F#1 G1 G#1 A1 A#1 B1 C2 C#2 D2 D#2 E2 F2 F#2 G2 G#2 A2 A#2 B2 C3 C#3 D3 D#3 E3 F3 F#3 G3 G#3 A3 A#3 B3 C4 C#4 D4 D#4 E4 F4 F#4 G4 G#4 A4 A#4 B4 C5

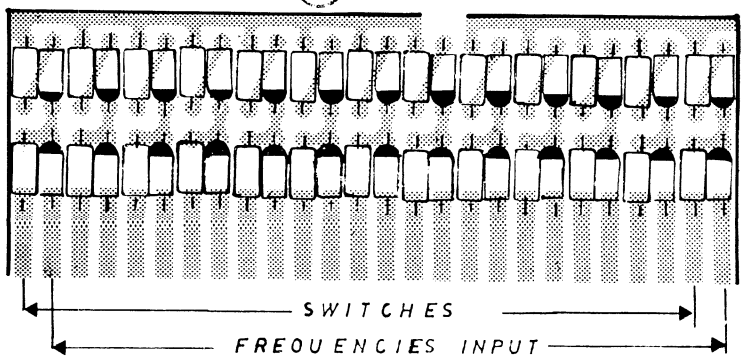
M000489 (31) (427GR0489A)



M000487 (12) (427GR0487B)

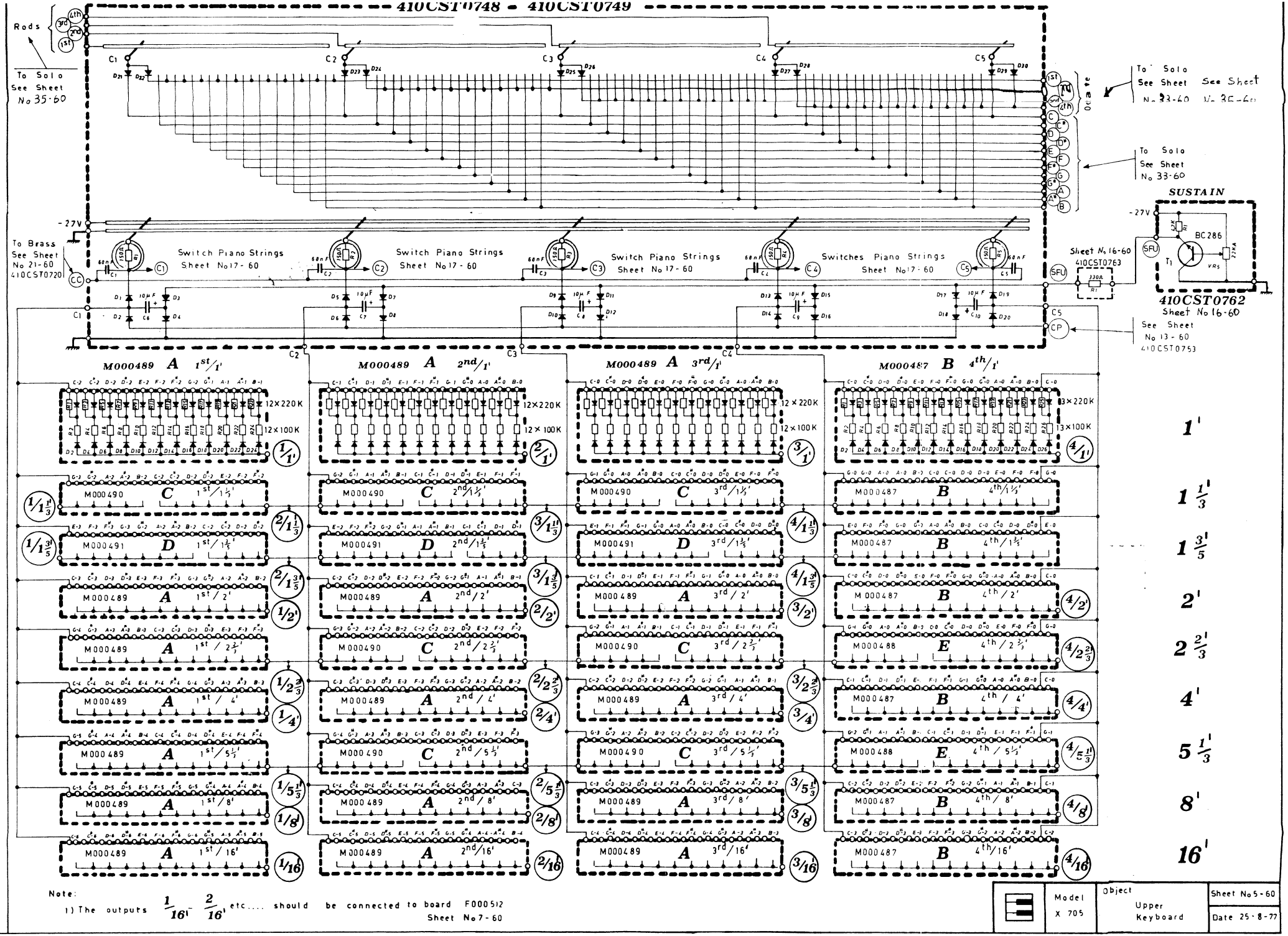


M000488 (4) (427GR0488E)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model	Object:	Sheet No 4 - 50
	X-705	Assembly of Printed Circuit	Date 19-7-77

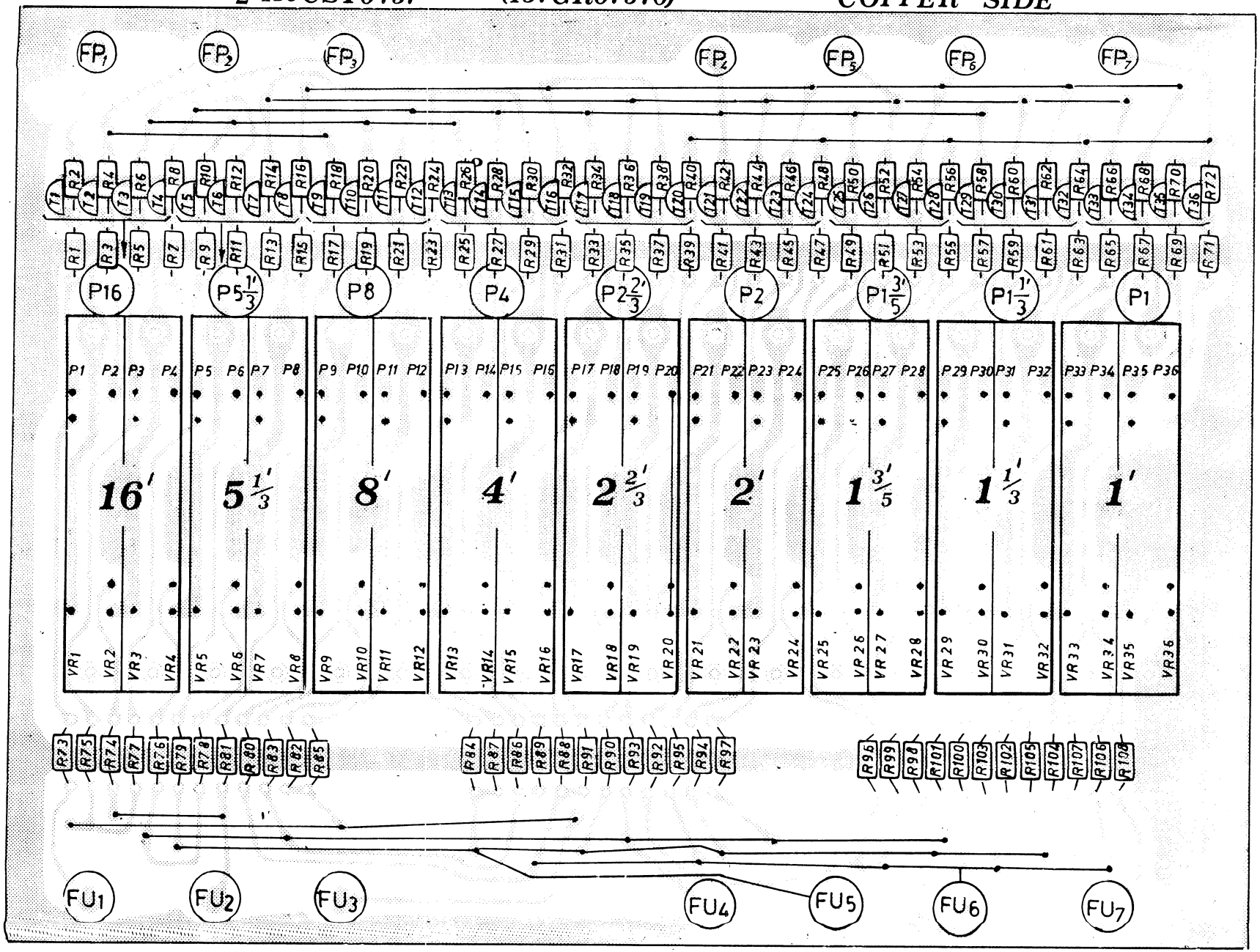


Note:

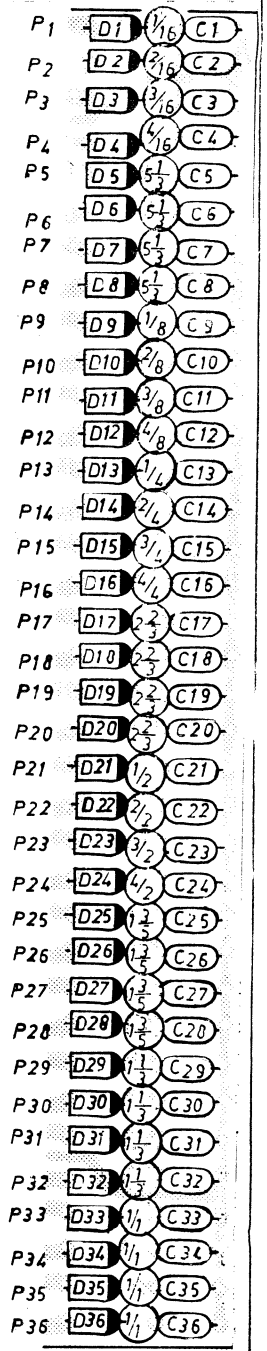
1) The outputs 1/16' - 2/16' etc.... should be connected to board F000512
Sheet No 7-60

	Model	Object	Sheet No 5-60
	X 705	Upper Keyboard	Date 25-8-77

1/2 410CST0757 (457GR07570) COPPER SIDE



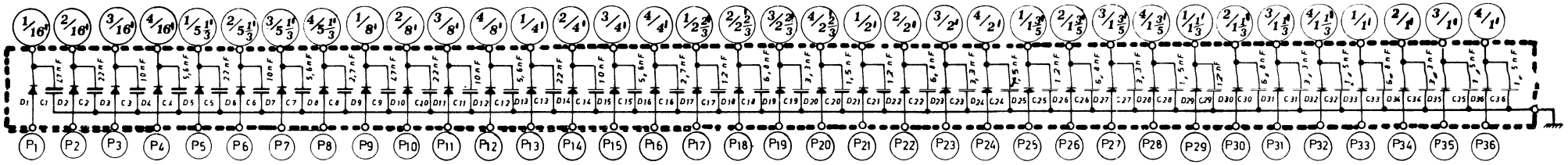
F000512
(427GR05120)



Model	Object	Sheet No. 6-60
X 705	Assembly of Printed Circuit	Date 1-9-77

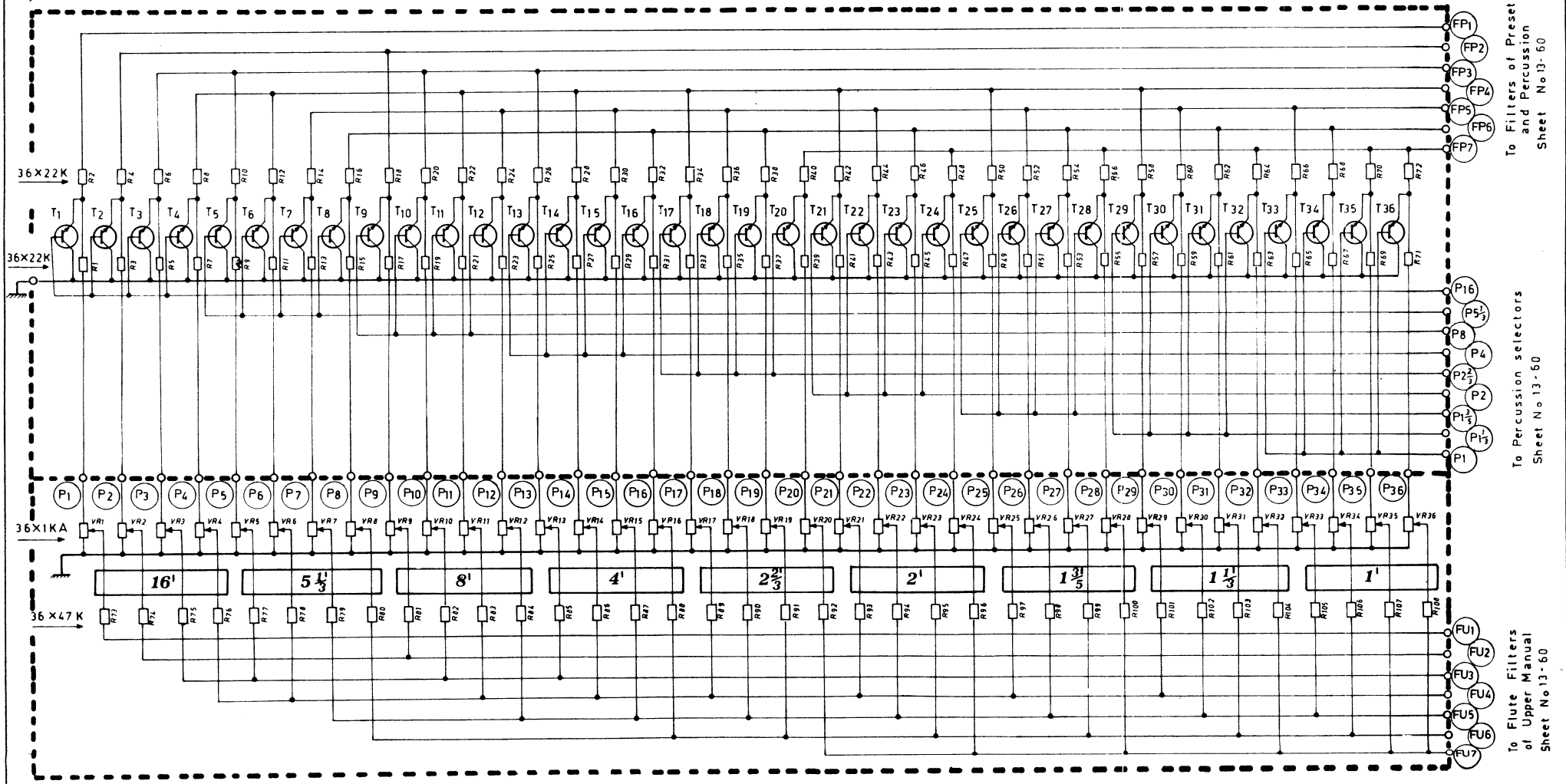
THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

See Sheet No 5-60



M000512

410CST0798



To Filters of Presets and Percussion Sheet No 13-60

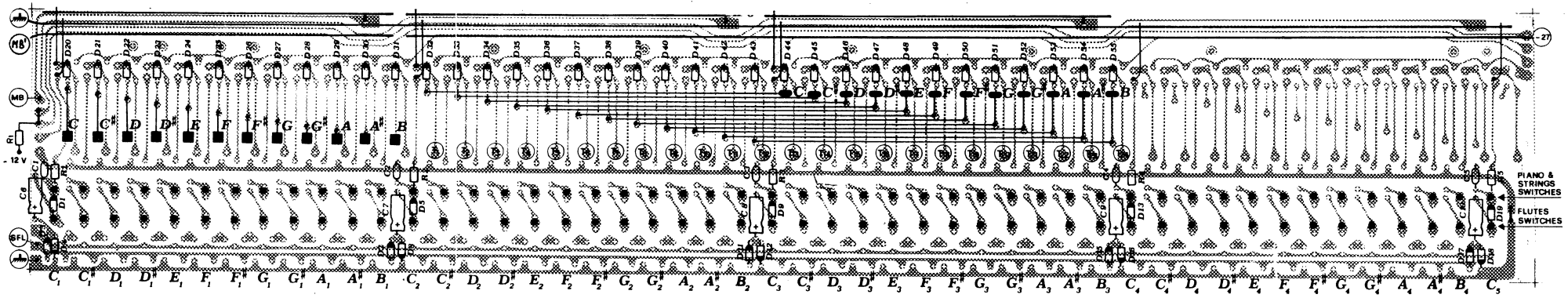
To Percussion selectors Sheet No 13-60

To Flute Filters of Upper Manual Sheet No 13-60

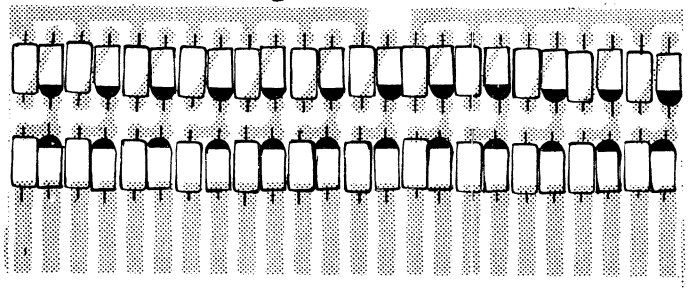
Code	Type	Transistors
T1 ÷ T36	NPN	BC 171

Model	Object	Sheet No 7-60
X 705	Upper Keyboard Drawbars	Date 9-2-77

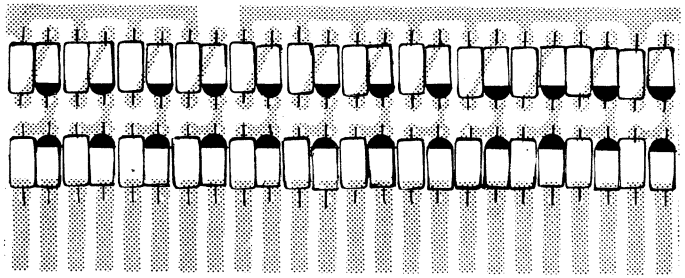
410CST0748 (457GR07481) 410CST0818



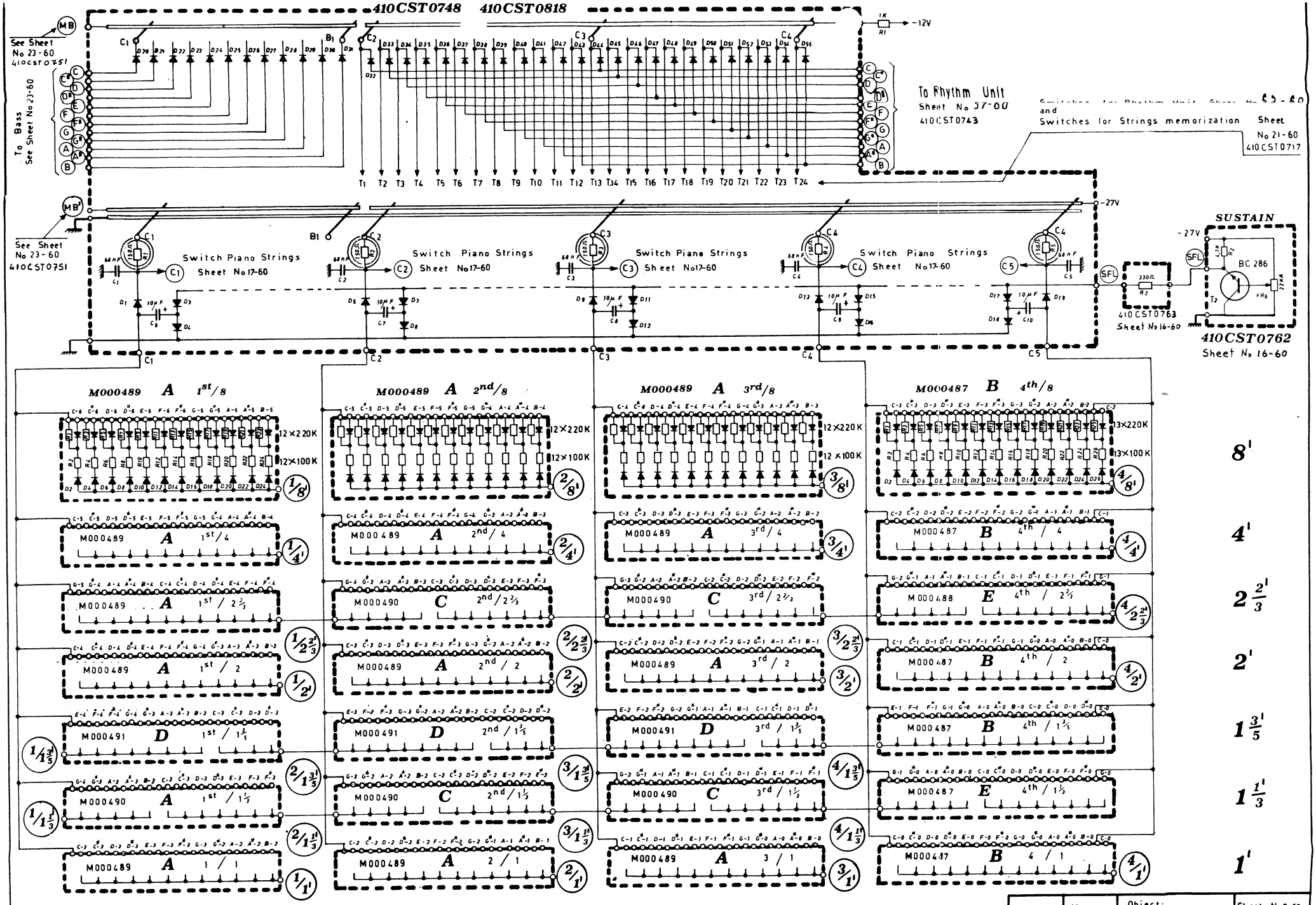
M000490 (11) (427GR0490C)



M000491 (6) (427GR0491D)



Model	Object:	Sheet No 8-60
X 705	Assembly of Printed Circuit	Date 10-10-77

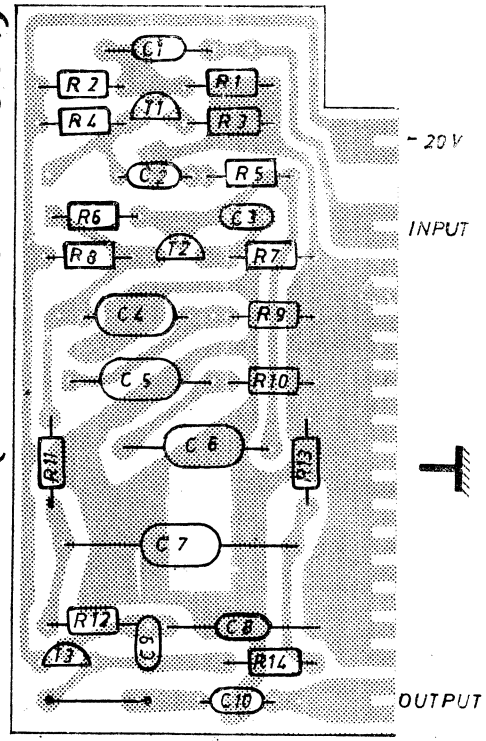


Note

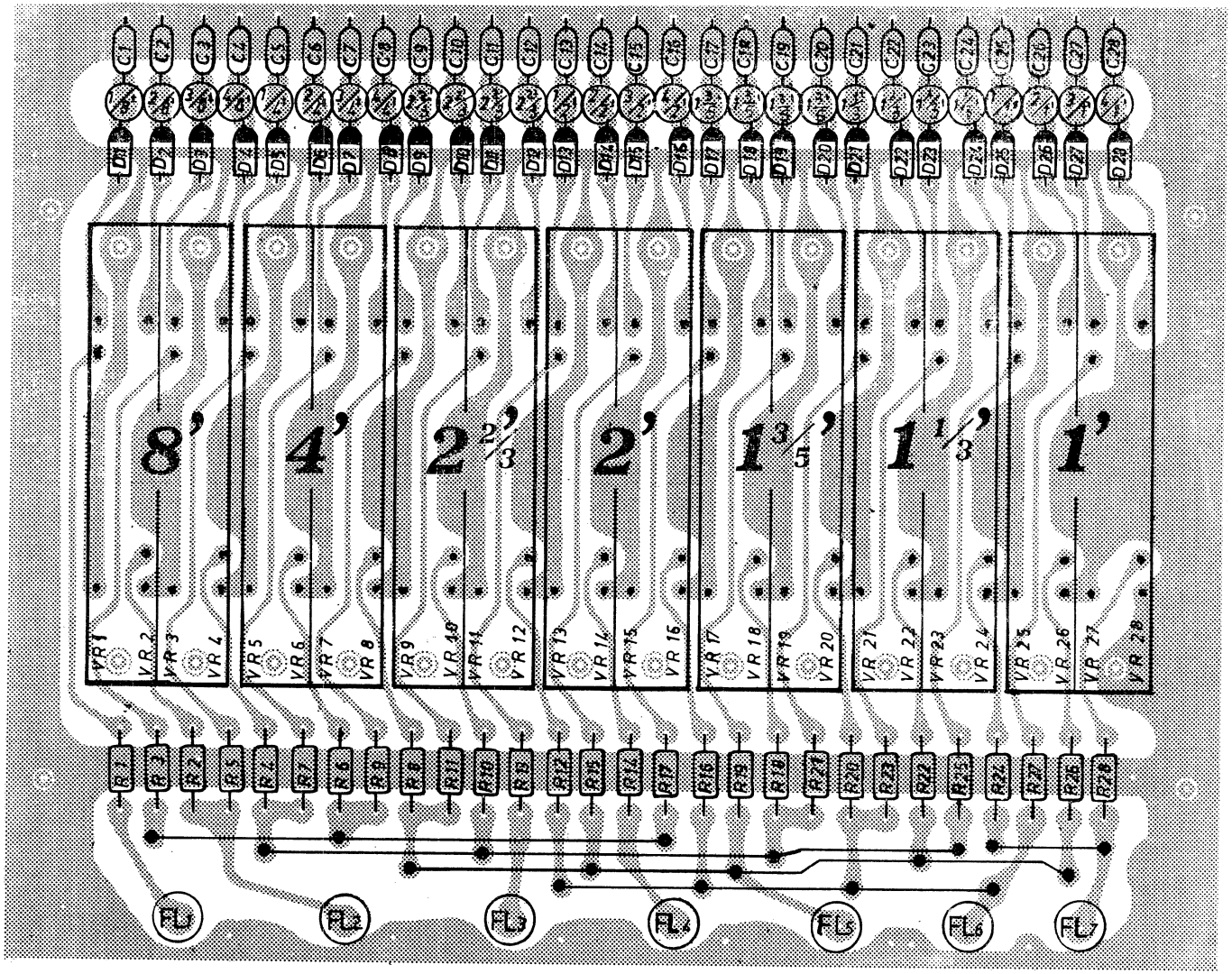
1) The outputs 1/8' 2/8' etc... should be connected to board Sheet No11-60

	Model	Object:	Sheet No9-60
	X 705	Lower Keyboard	Date 26-8-77

F000445 (427GRO4451-2-3-4-5-6-7)



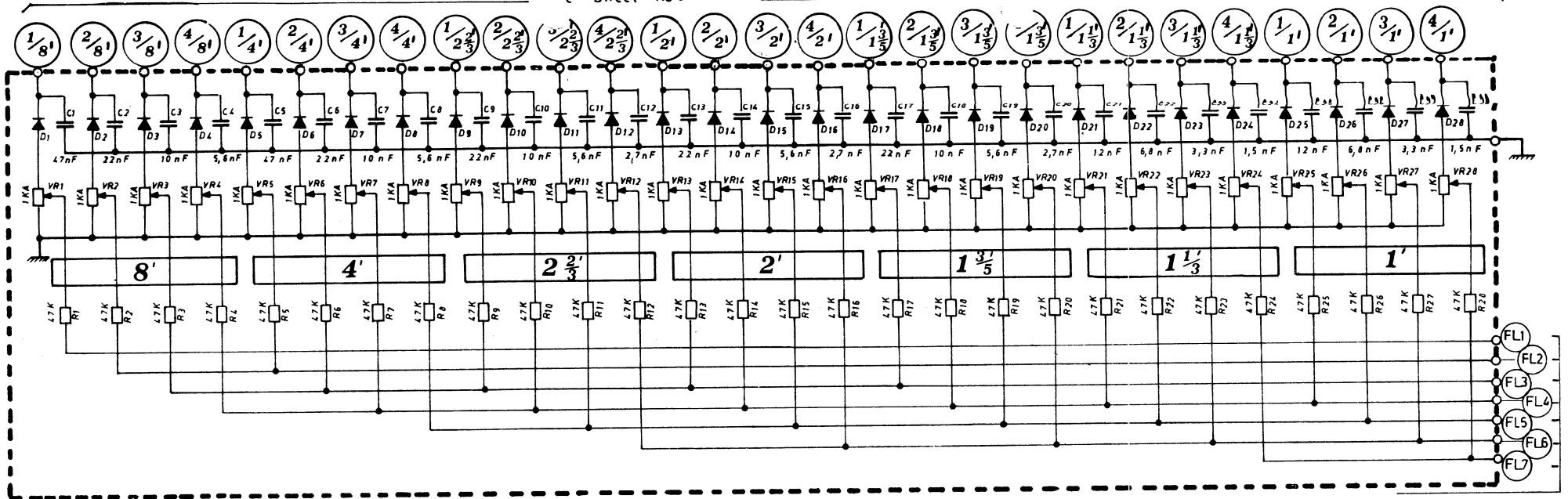
410CST0750 (457GRO7500) Copper Side



Model	Object:	Sheet No 10-60
X 705	Assembly of Printed Circuit	Date 1-9-77

THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS

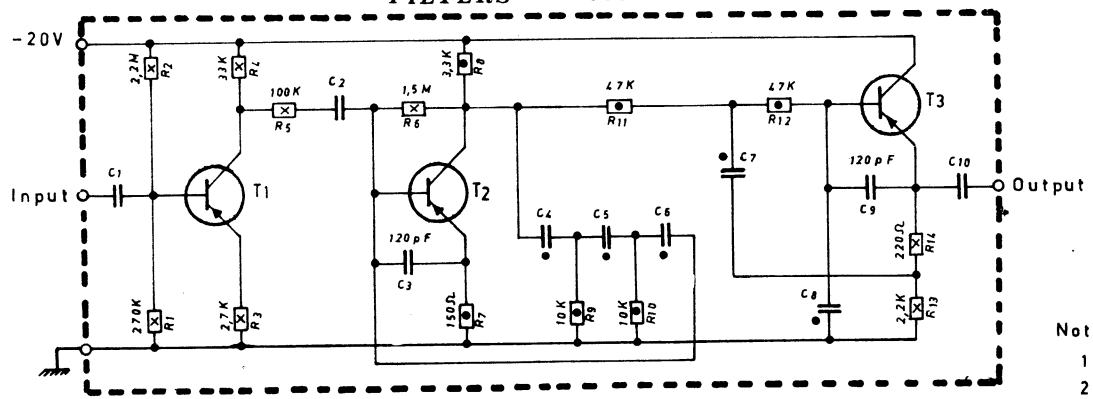
Case Sheet No 9 - 60



410CST0750

To Flute Filters of Lower Manual Sheet No 13 - 60

FILTERS F000445



Code	Type	Transistors
T1 – T3	PNP	BC 415
T2	PNP	BC 415C yellow point or green point

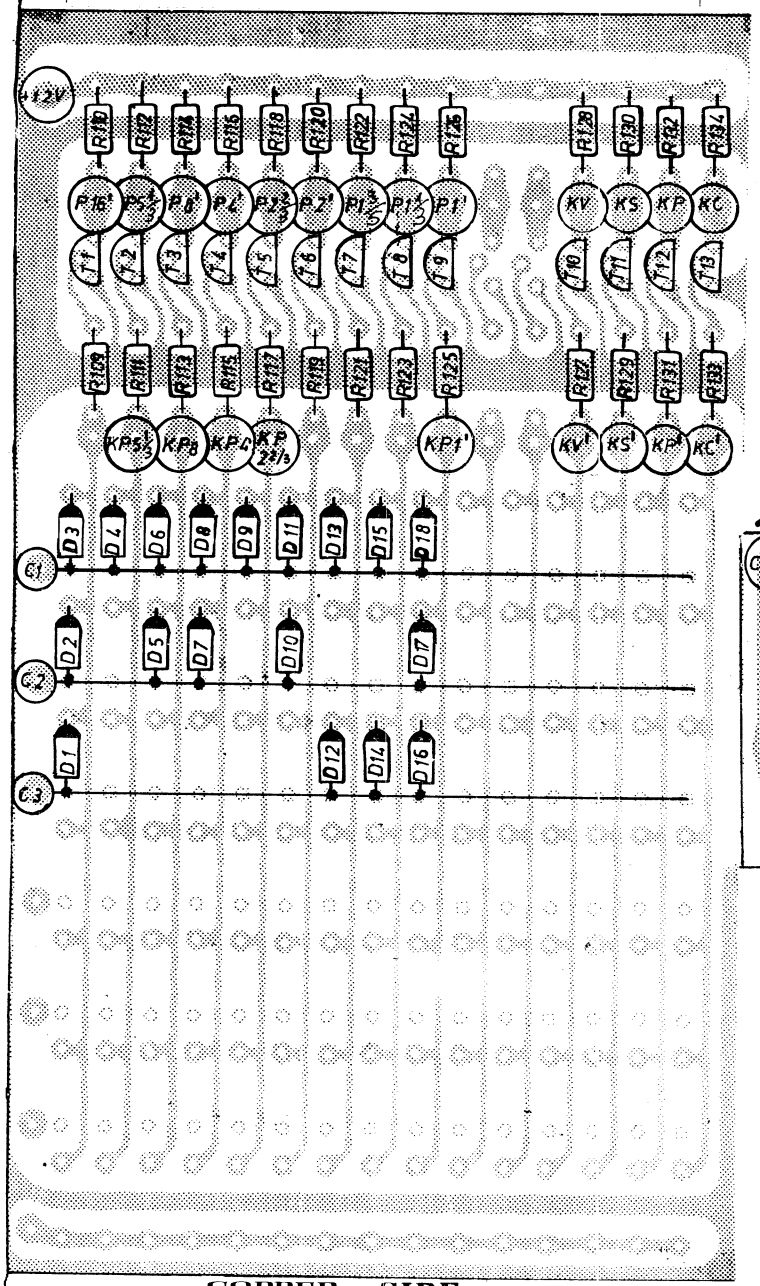
	Upper Lower and Percussion Filters						
	FU1 FL1 FP1	FU2 FL2 FP2	FU3 FL3 FP3	FU4 FL4 FP4	FU5 FL5 FP5	FU6 FL6 FP6	FU7 FL7 FP7
C1	330nF	220nF	100nF	47nF	27nF	12nF	6,8nF
C2	82nF	47nF	22nF	10nF	5,6nF	2,7nF	1,2nF
C4	47,2nF	23,6nF	11,8nF	5,9nF	2,95nF	1475pF	737pF
C5	47,2nF	23,6nF	11,8nF	5,9nF	2,95nF	1475pF	737pF
C6	47,2nF	23,6nF	11,8nF	5,9nF	2,95nF	1475pF	737pF
C7	176nF	88nF	44nF	22nF	11nF	5,5nF	2750pF
C8	16nF	8nF	4nF	2nF	1nF	500pF	250pF
C10	100nF	100nF	100nF	47nF	22nF	10nF	4,7nF

Note

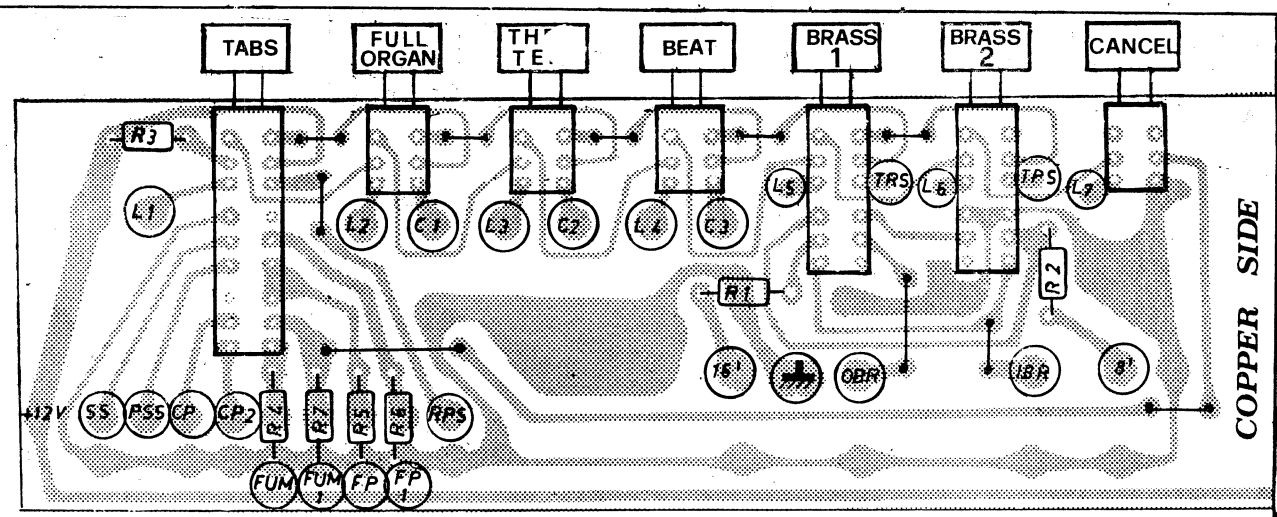
1) All resistors marked by a point • must be metal film ones 2% tollerance
2) All resistors marked by a asterisk x must be carbon film ones 5% tollerance
3) All capacitors marked by a point • are policarbonate 2% tollerance

	Model	Object:	Sheet No 11-60
	X 705	Lower Manual Draw Bars and Filters	Date 9-3-77

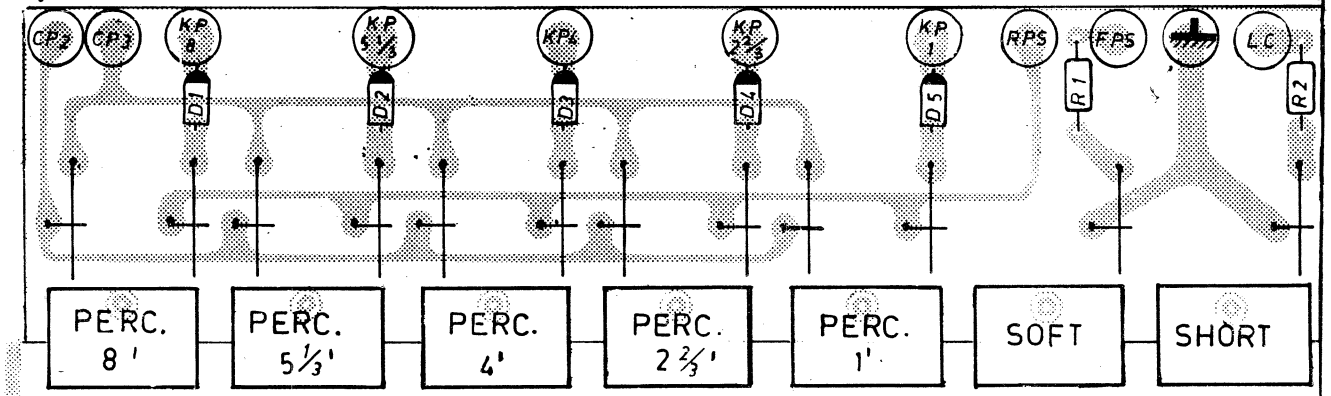
½ 410CST0757 (457GRO7570)



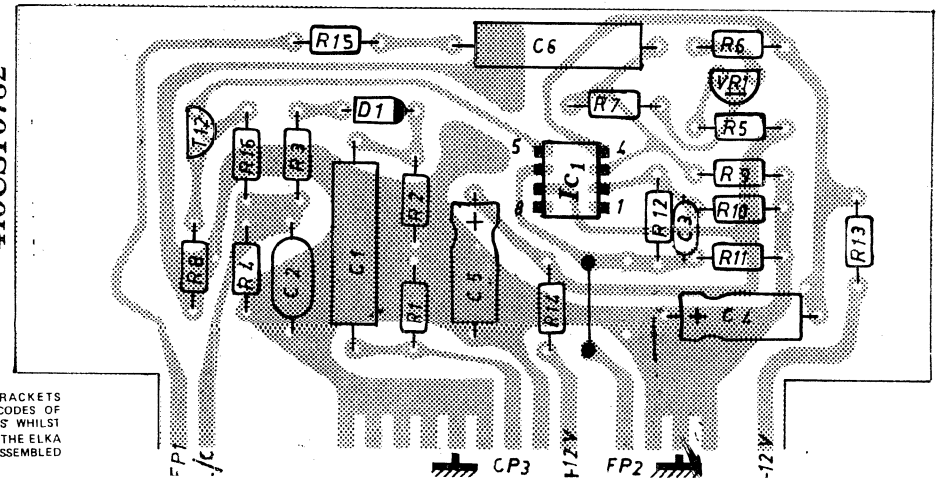
COPPER SIDE



½ 410CST0753 (427GRO7530)
410CST0760 (457GRO7580)



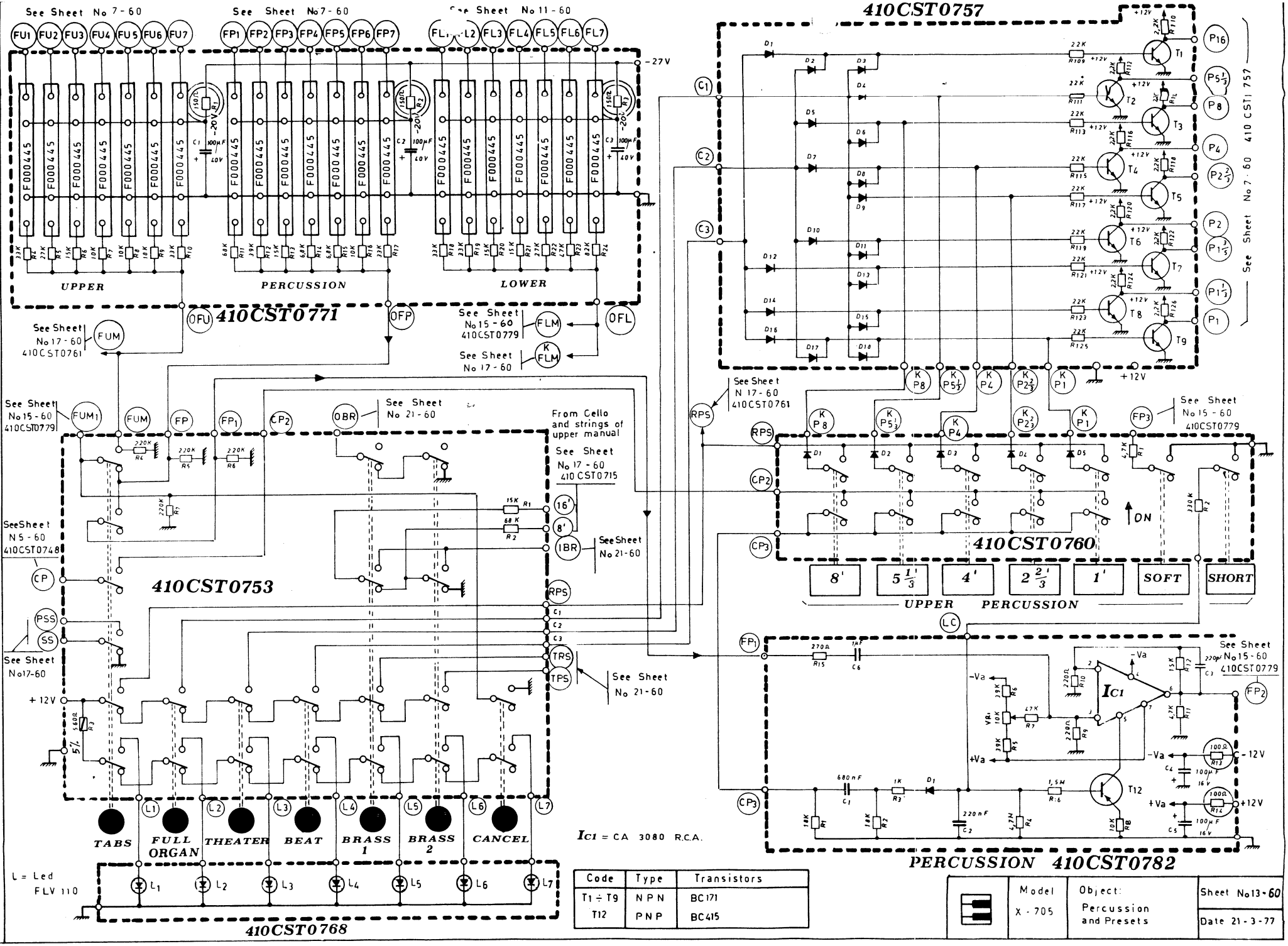
410CST0782



(457GRO7820)

Model	Object:	Sheet No 12-60
X 705	Assembly of Printed Circuit	Date 14-9-77

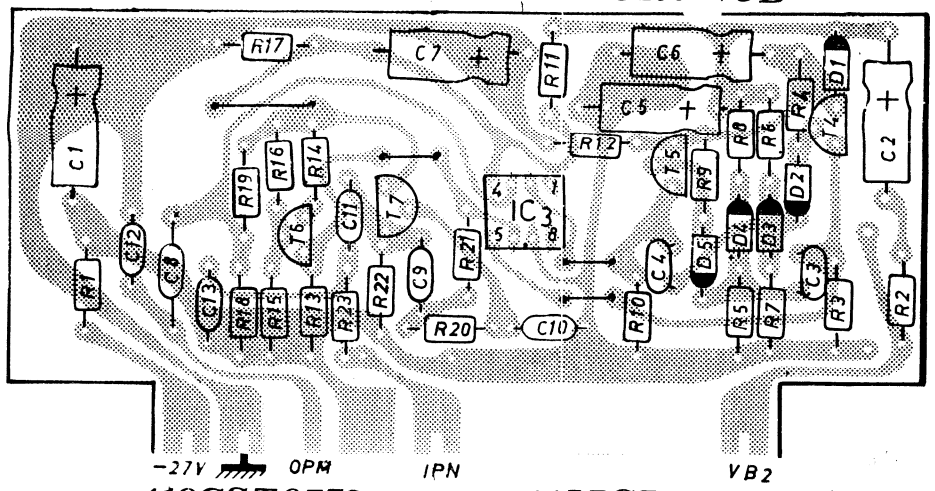
THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.



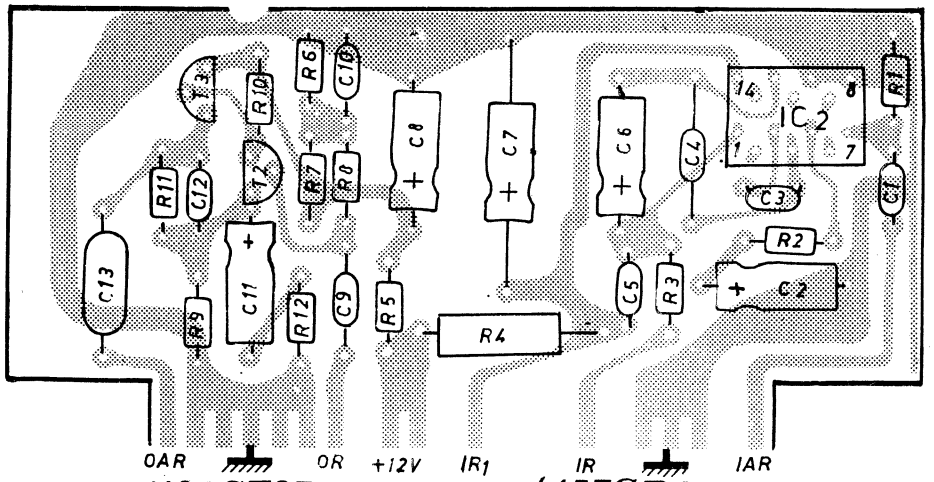
Code	Type	Transistors
T1 ÷ T9	NPN	BC171
T12	PNP	BC415

Model	Object:	Sheet No 13 - 60
X - 705	Percussion and Presets	Date 21 - 3 - 77

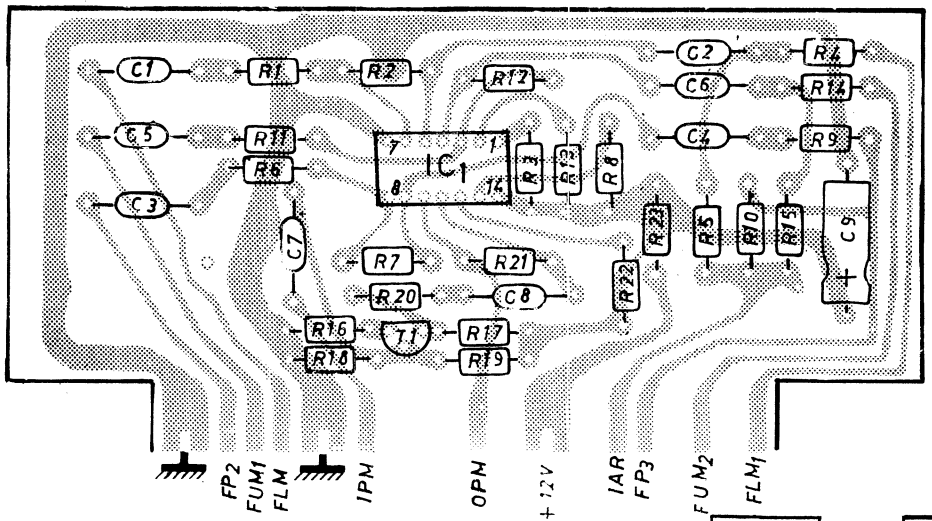
410CST0773 (457GR0773B)



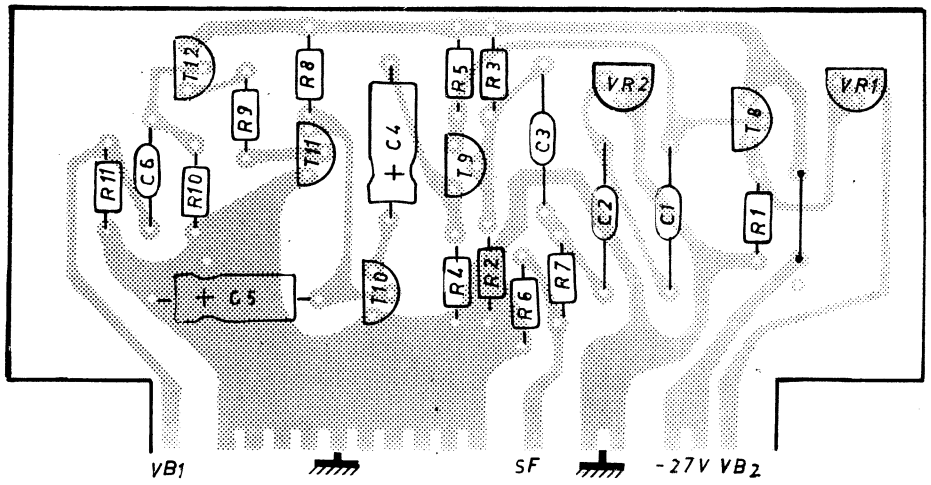
410CST0781 (457GR07810)



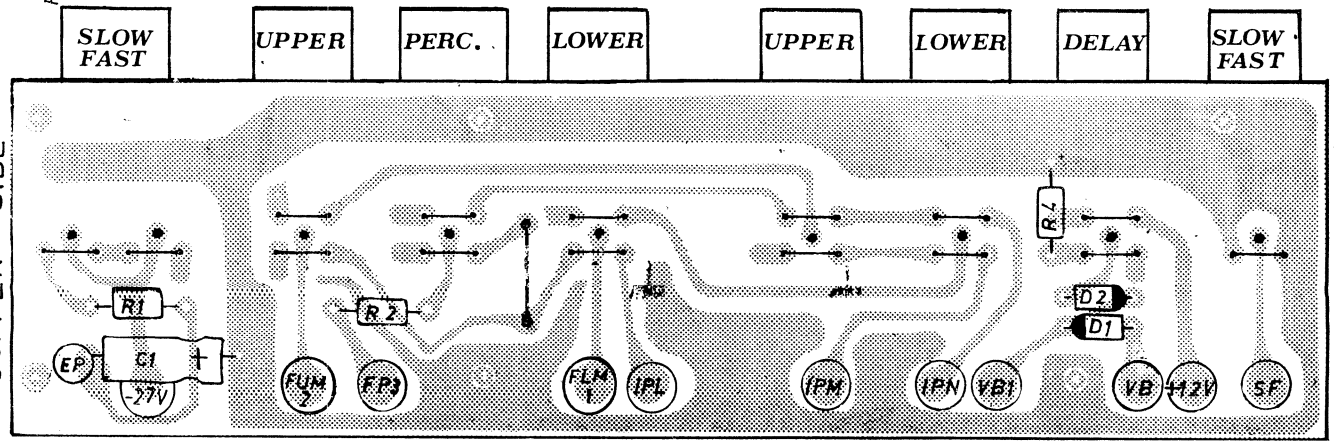
410CST0779 (457GR07790)



410CST0774 (457GR07740)

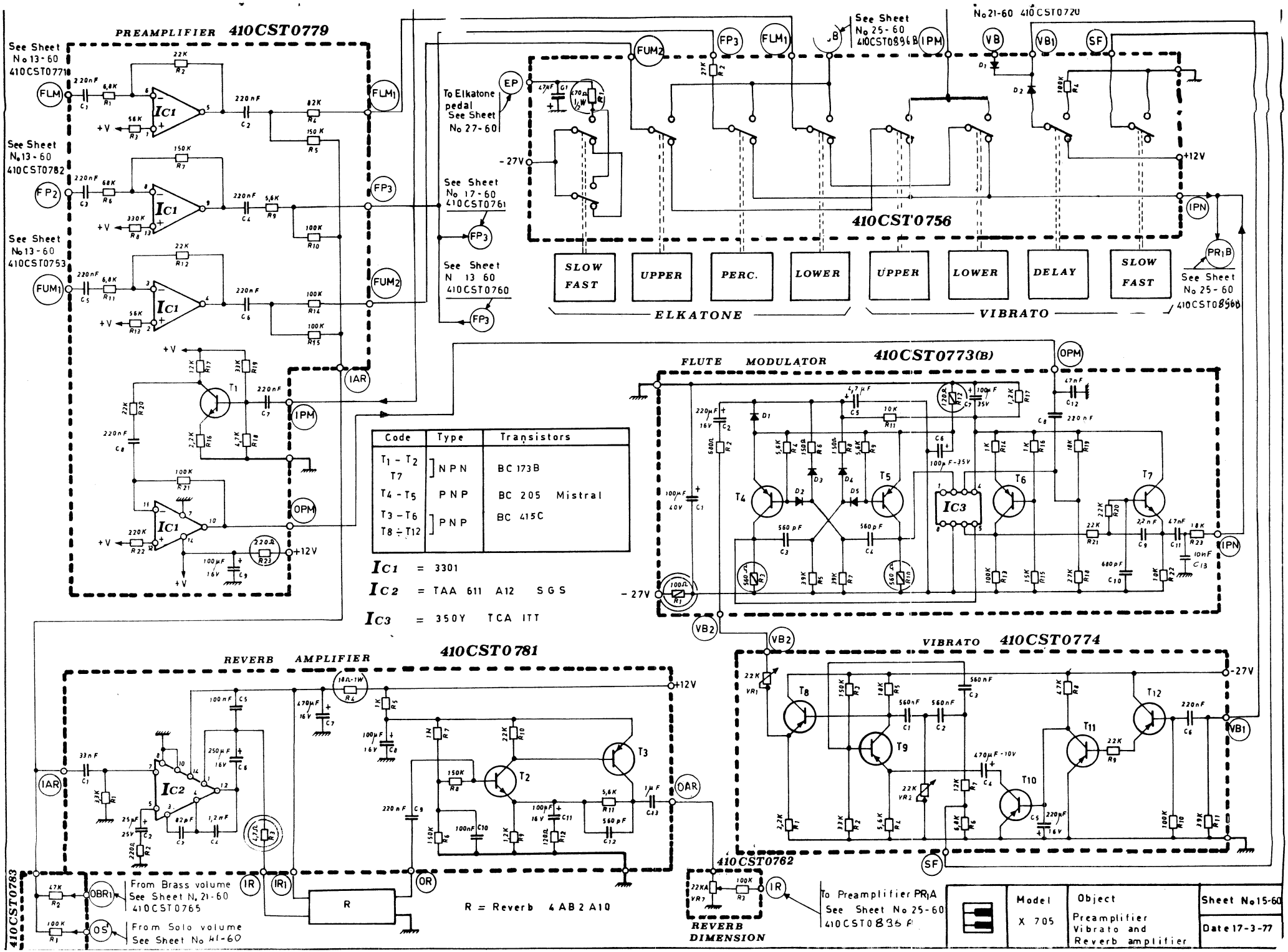


410CST0756 (457PR07561)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model X 705	Object: Assembly of Printed Circuit	Sheet No 14-60
			Date 20-9-77



Code	Type	Transistors
T1 - T2 T7	NPN	BC 173B
T4 - T5	PNP	BC 205 Mistral
T3 - T6 T8 ÷ T12	PNP	BC 415C

IC1 = 3301

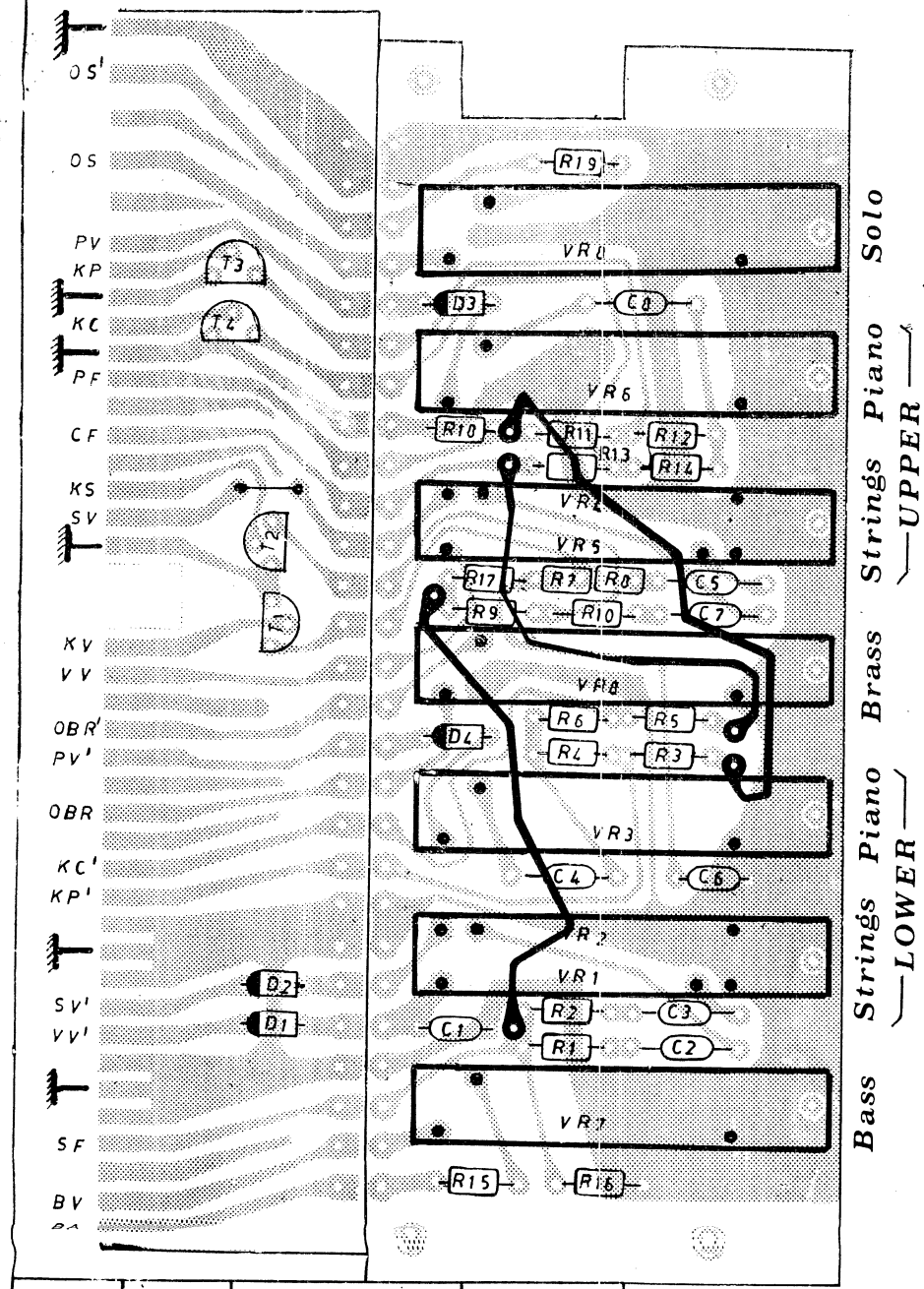
IC2 = TAA 611 A12 SGS

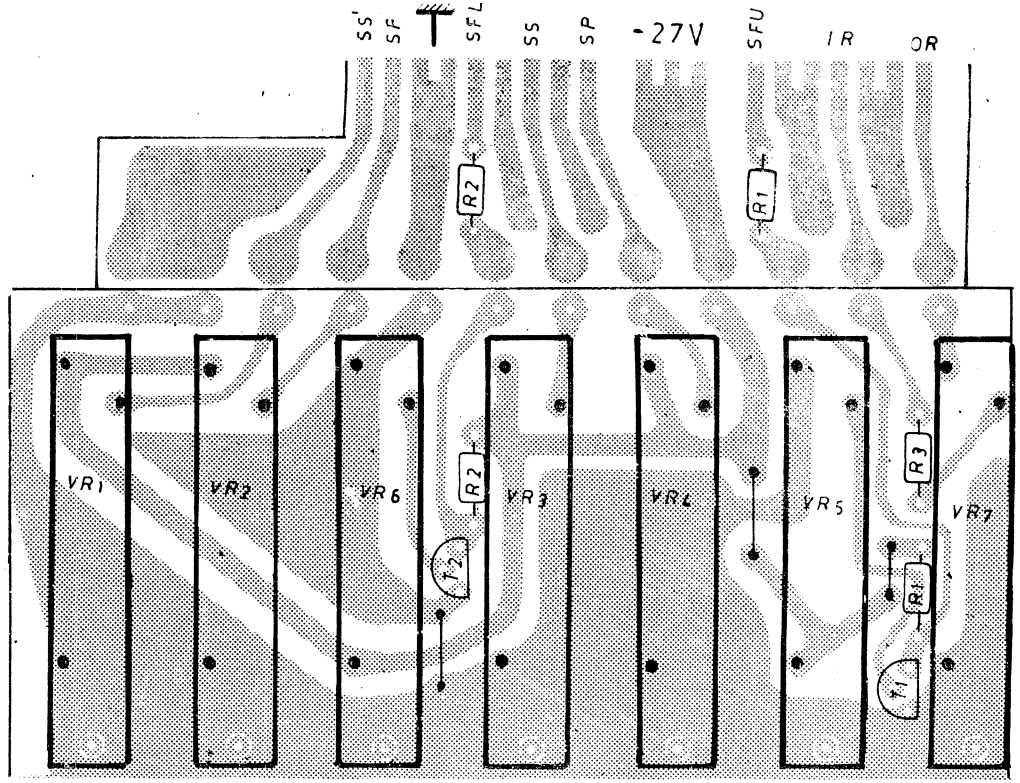
IC3 = 350Y TCA ITT

	Model X 705	Object Preamplifier Vibrato and Reverb amplifier	Sheet No 15-60
			Date 17-3-77

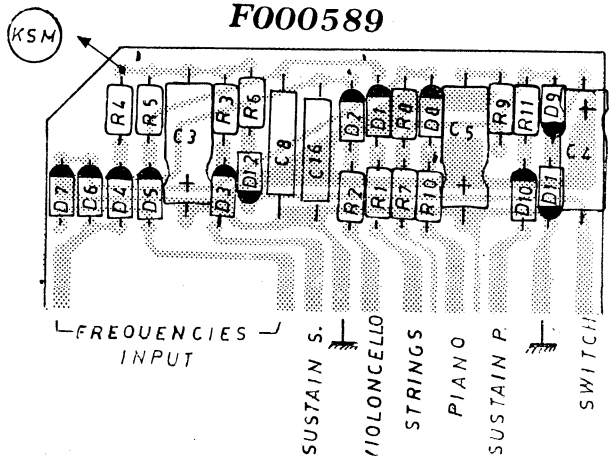
410CST0766 410CST0765

(457GR07650)



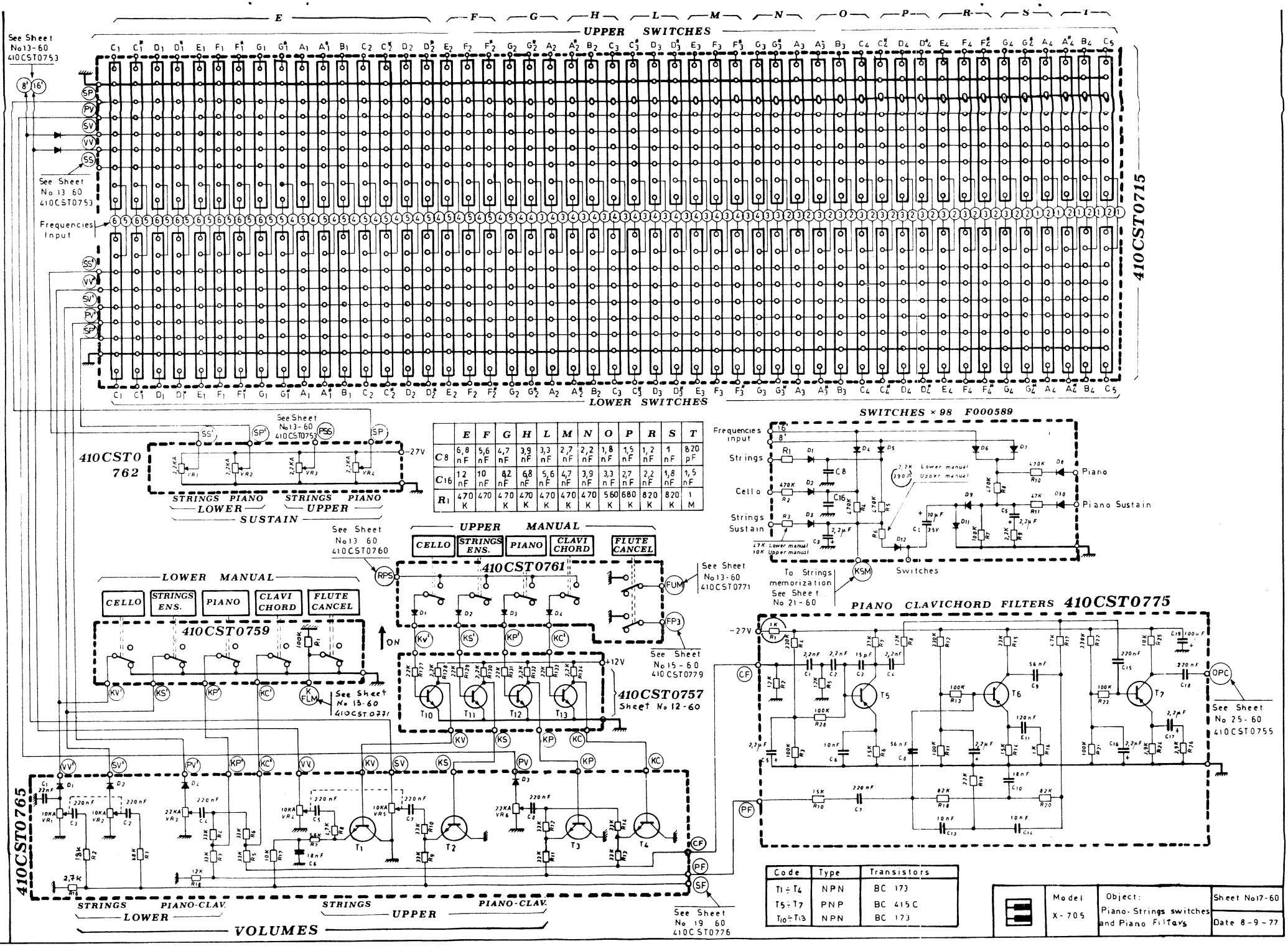


F000589



Model	Object:	Sheet No 16-60
X 705	Assembly of Printed Circuit	Date 27-9-77

THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS

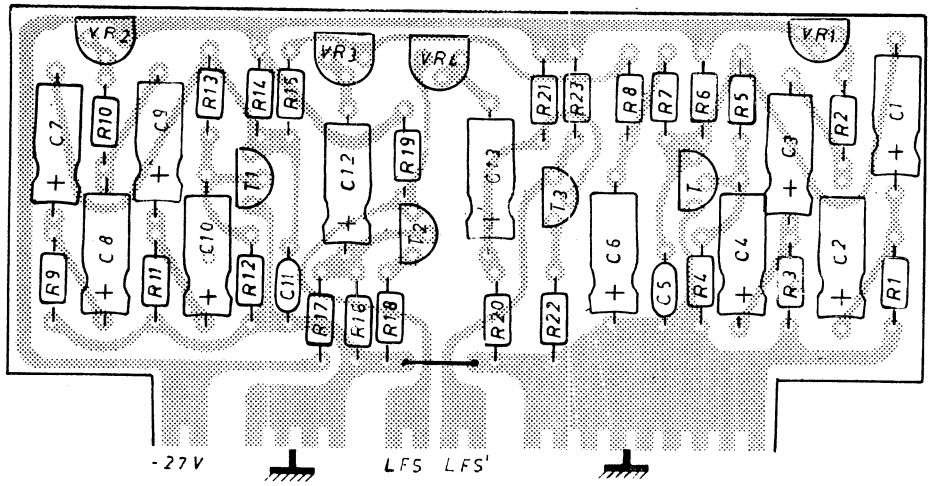


	E	F	G	H	L	M	N	O	P	R	S	T
C8	6,8 nF	5,6 nF	4,7 nF	3,9 nF	3,3 nF	2,7 nF	2,2 nF	1,8 nF	1,5 nF	1,2 nF	1 nF	820 pF
C16	12 nF	10 nF	8,2 nF	6,8 nF	5,6 nF	4,7 nF	3,9 nF	3,3 nF	2,7 nF	2,2 nF	1,8 nF	1,5 nF
R1	470 K	470	470 K	470 K	470 K	470 K	470 K	560 K	680 K	820 K	820 K	1 M

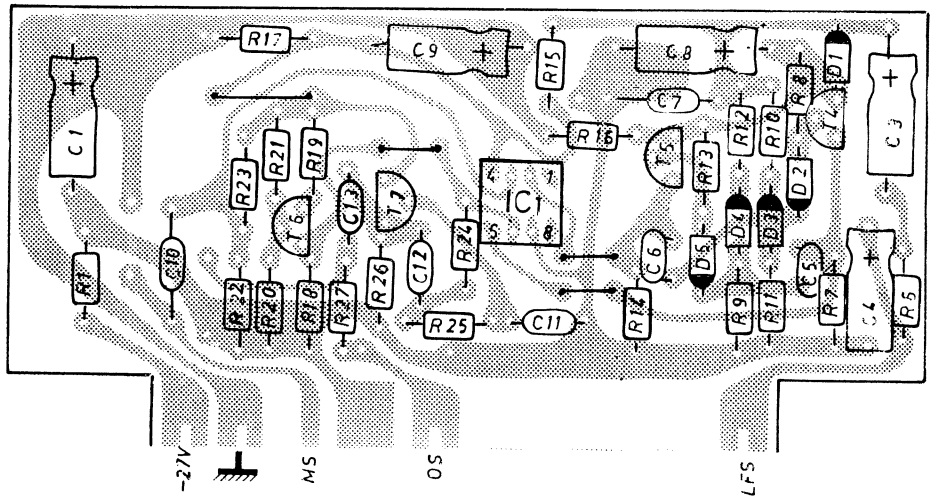
Code	Type	Transistors
T1 ÷ T4	NPN	BC 173
T5 ÷ T7	PNP	BC 415 C
T10 ÷ T13	NPN	BC 173

	Model	Object:	Sheet No 17-60
	X-705	Piano-Strings switches and Piano Filters	Date 8-9-77

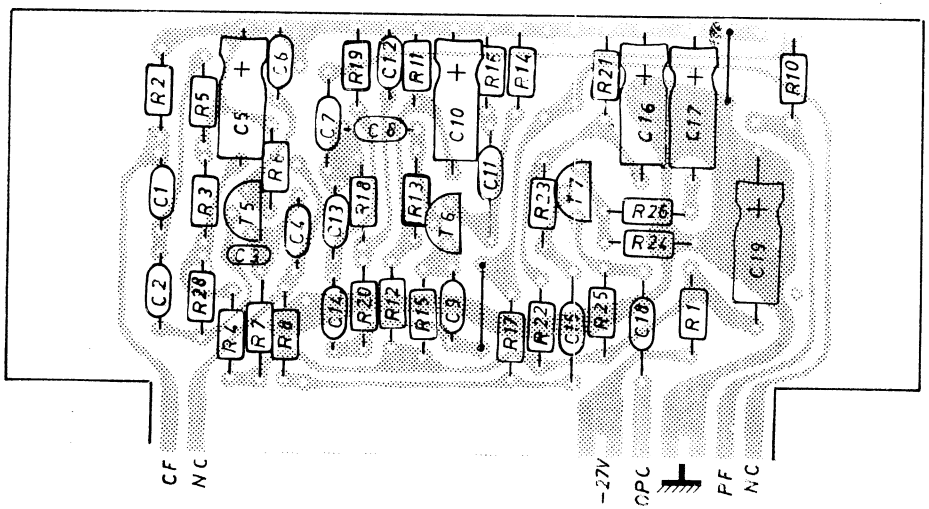
410CST0772 (457GR07720)



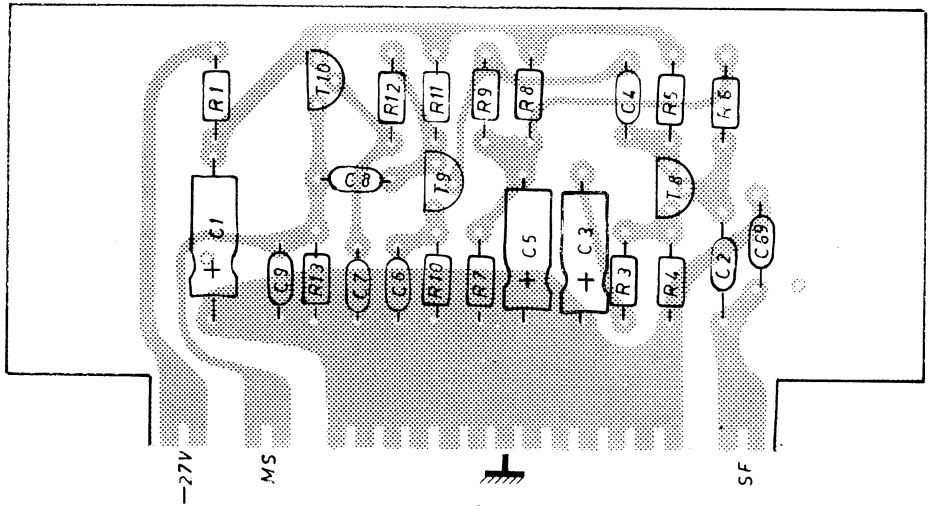
410CST0773 (457GR0773A)



410CST0775 (457GR07750)



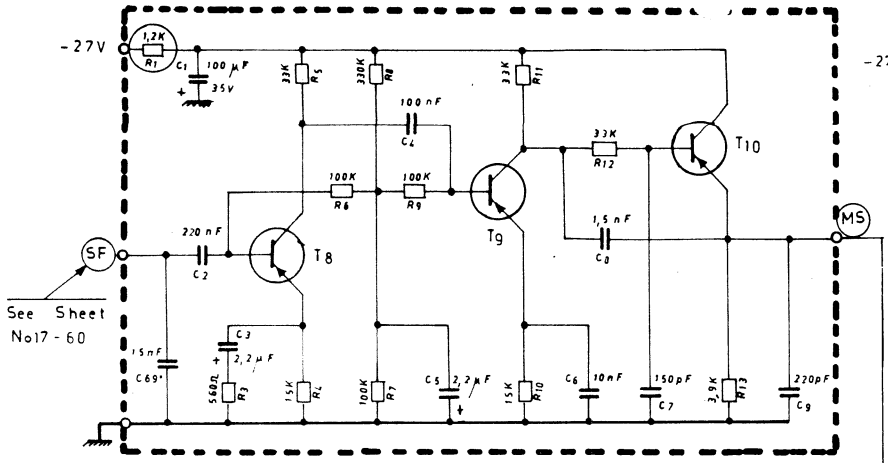
410CST0776 (457GR07760)



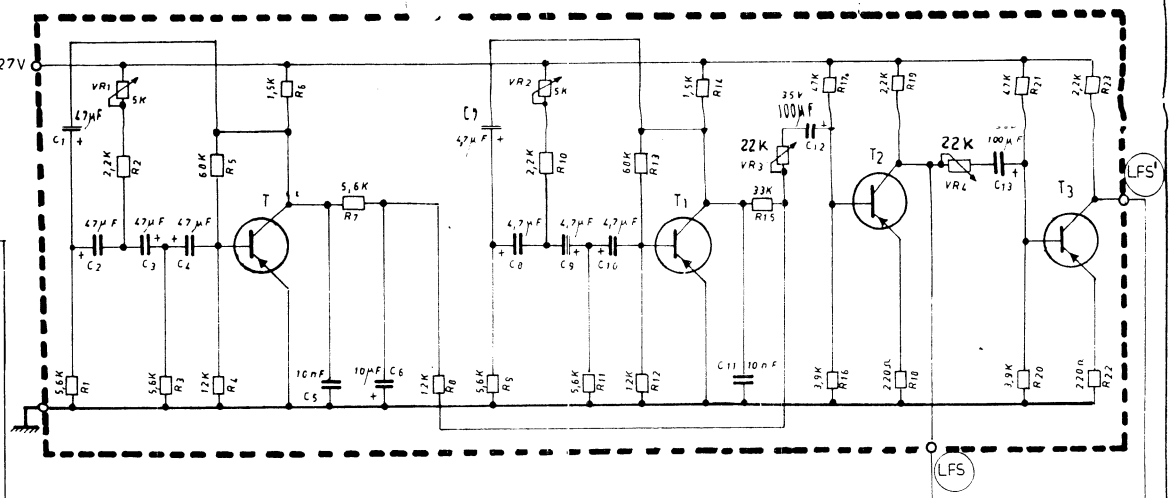
Model	Object:	Sheet No 18-60
X 705	Assembly of Printed Circuit	Date 22-9-77

THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS

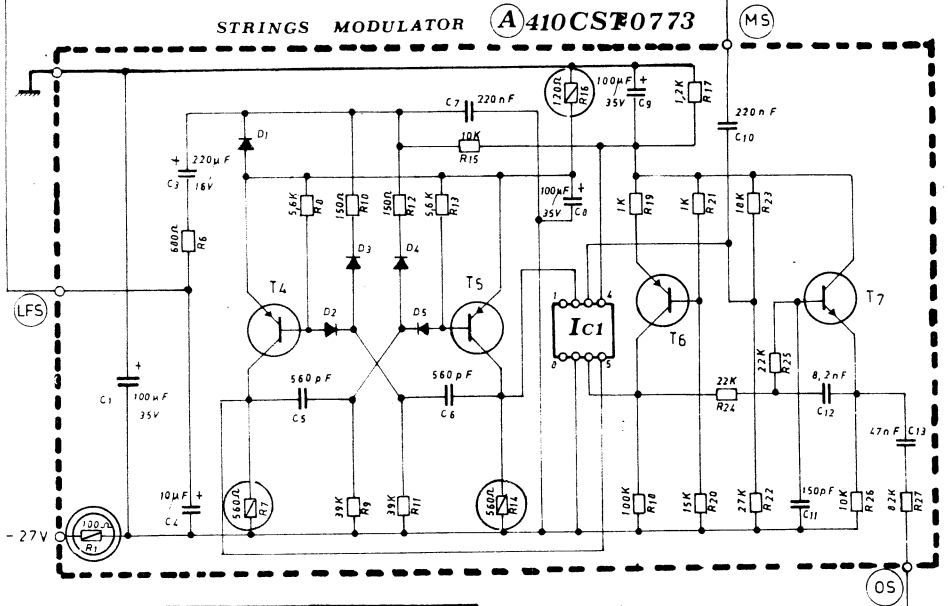
STRINGS FILTERS 410CST07[illegible]



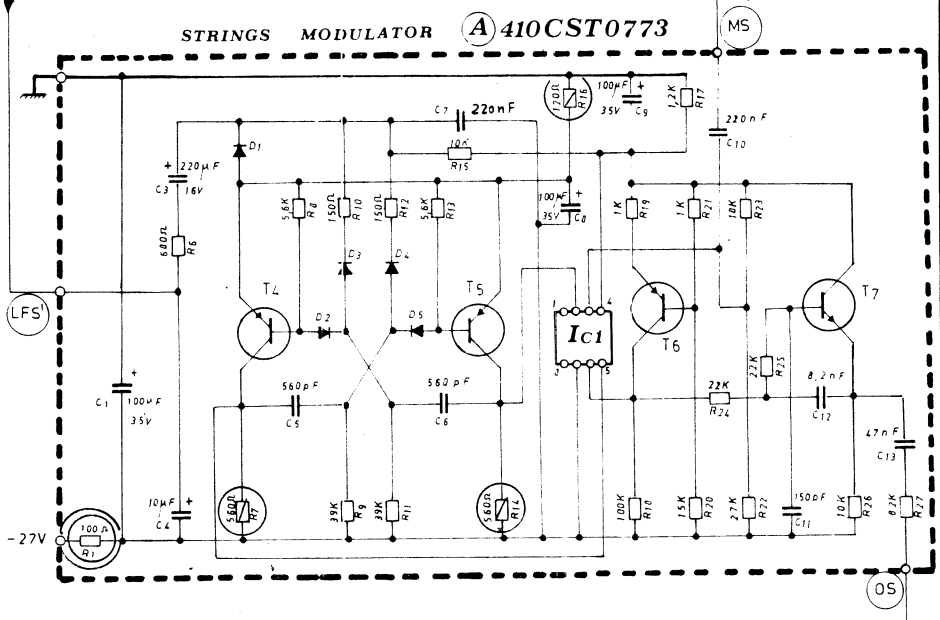
LOW FRE[illegible]ENCY OSCILLATOR 410CST0772



STRINGS MODULATOR A 410CST0773



STRINGS MODULATOR A 410CST0773



Code	Type	Transistors
T7	NPN	BC 173
T4 - T5	PNP	BC 205
T1 - T3	PNP	BC 415 C
T6 - T8 T9 - T10	PNP	BC 415 B

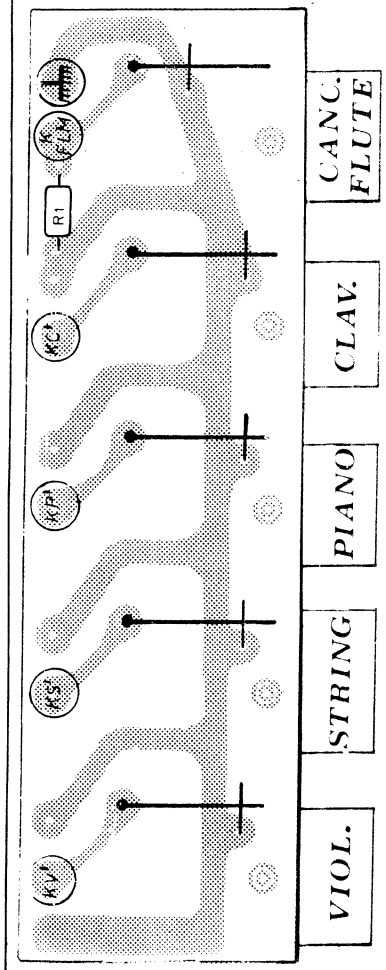
IC1 = TCA 350E ITT

OS

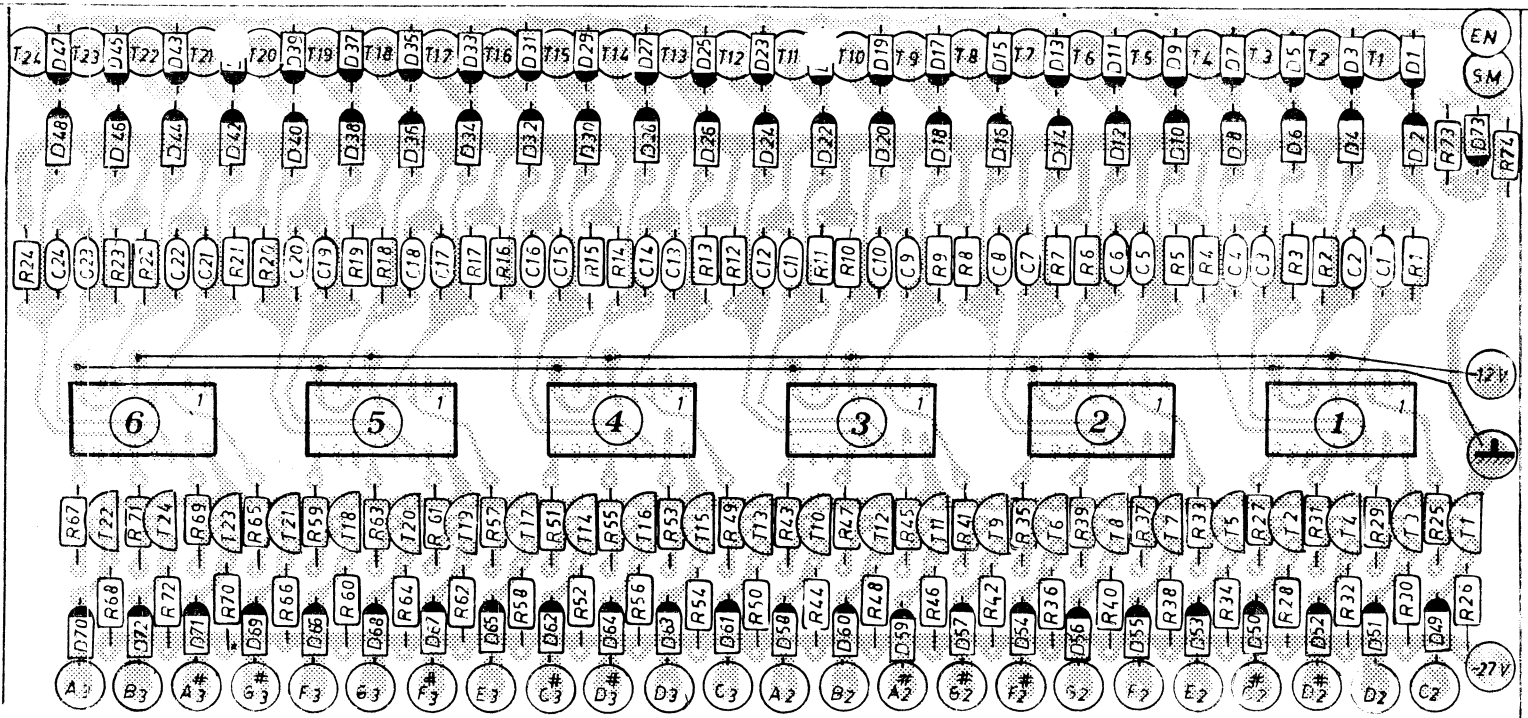
To Preamplifier PR3A (410CST0896A
See Sheet
No 25 - 60

	Model	Object:	Sheet No 19-60
	X 705	Strings Amplifier and Modulators	Date 30-6-77

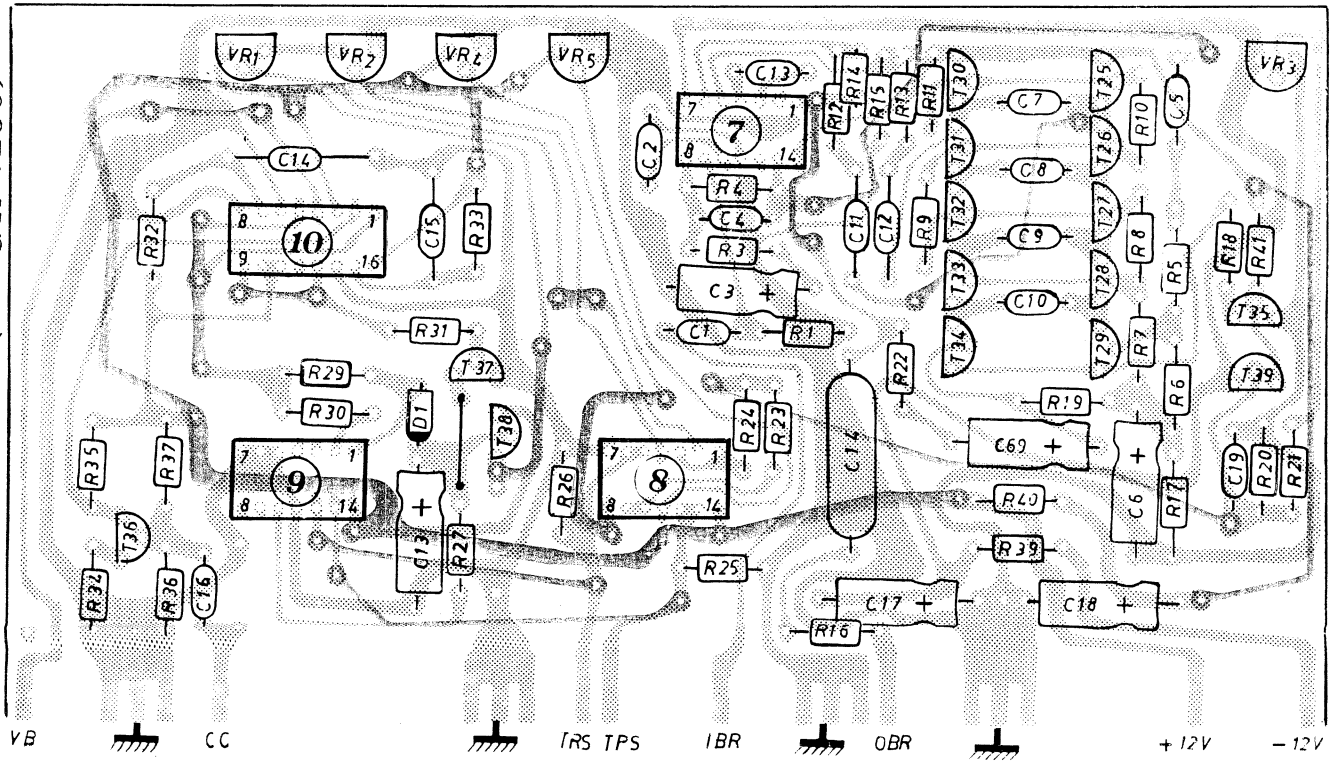
(457PR07591)
410CST0759



410CST0717 (457GR07170)

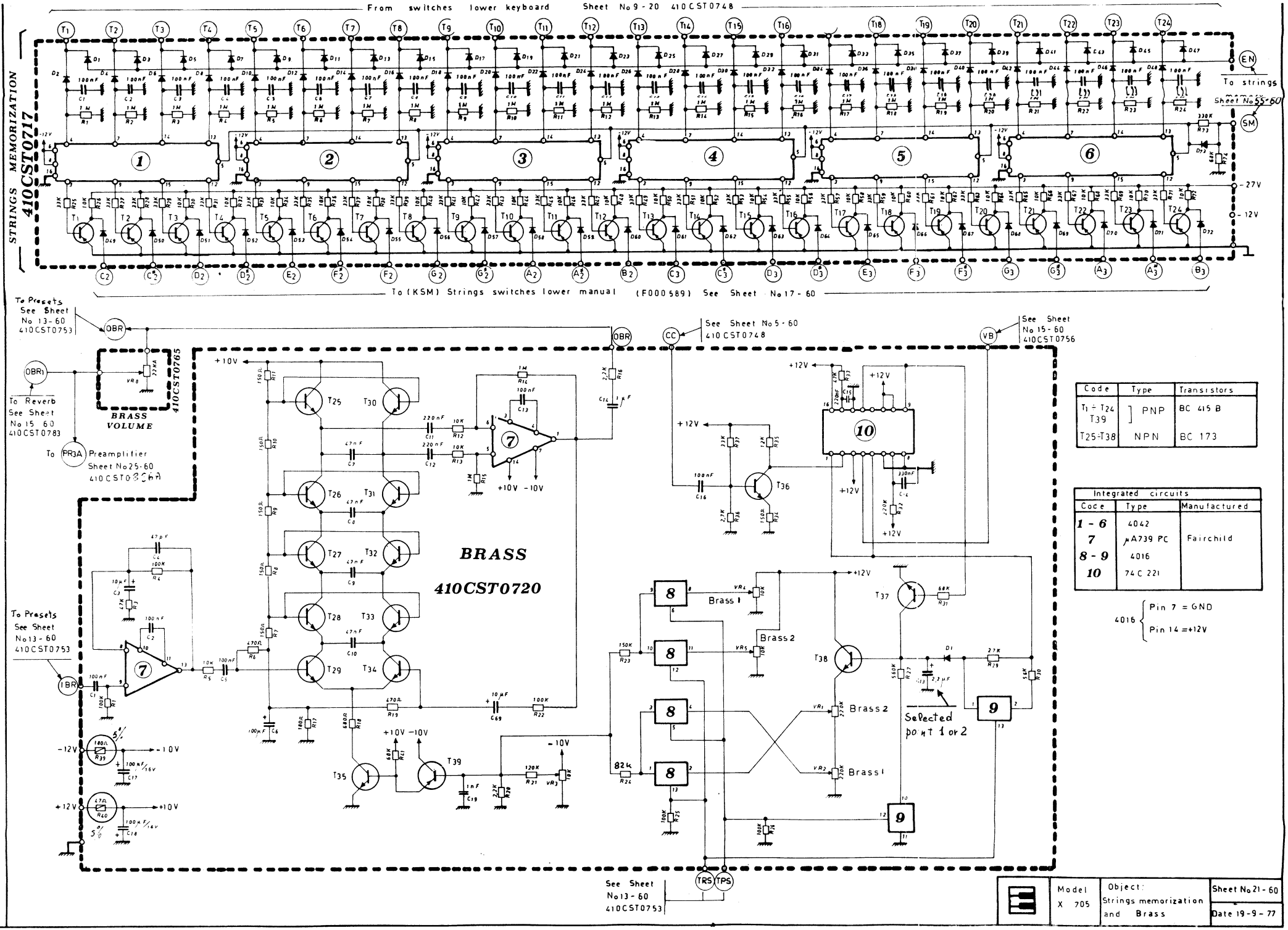


410CST0720 (457GR07200)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS

	Model	Object:	Sheet No 20-60
	X 705	Assembly of Printed Circuit	Date 28 9-77


From switches lower keyboard Sheet No 9 - 20 410CST0748
STRINGS MEMORIZATION 410CST0717
To strings memory Sheet No 55-60
To (KSM) Strings switches lower manual (F000589) See Sheet No 17 - 60
To Presets See Sheet No 13 - 60 410CST0753
To Reverb See Sheet No 15 60 410CST0783
To PR3A Preamplifier Sheet No 25-60 410CST0820
BRASS VOLUME
410CST0765
BRASS
410CST0720
See Sheet No 5 - 60 410CST0748
See Sheet No 15 - 60 410CST0756
Brass 1
Brass 2
Selected point 1 or 2
See Sheet No 13 - 60 410CST0753
Model X 705
Object: Strings memorization and Brass
Sheet No 21 - 60
Date 19 - 9 - 77

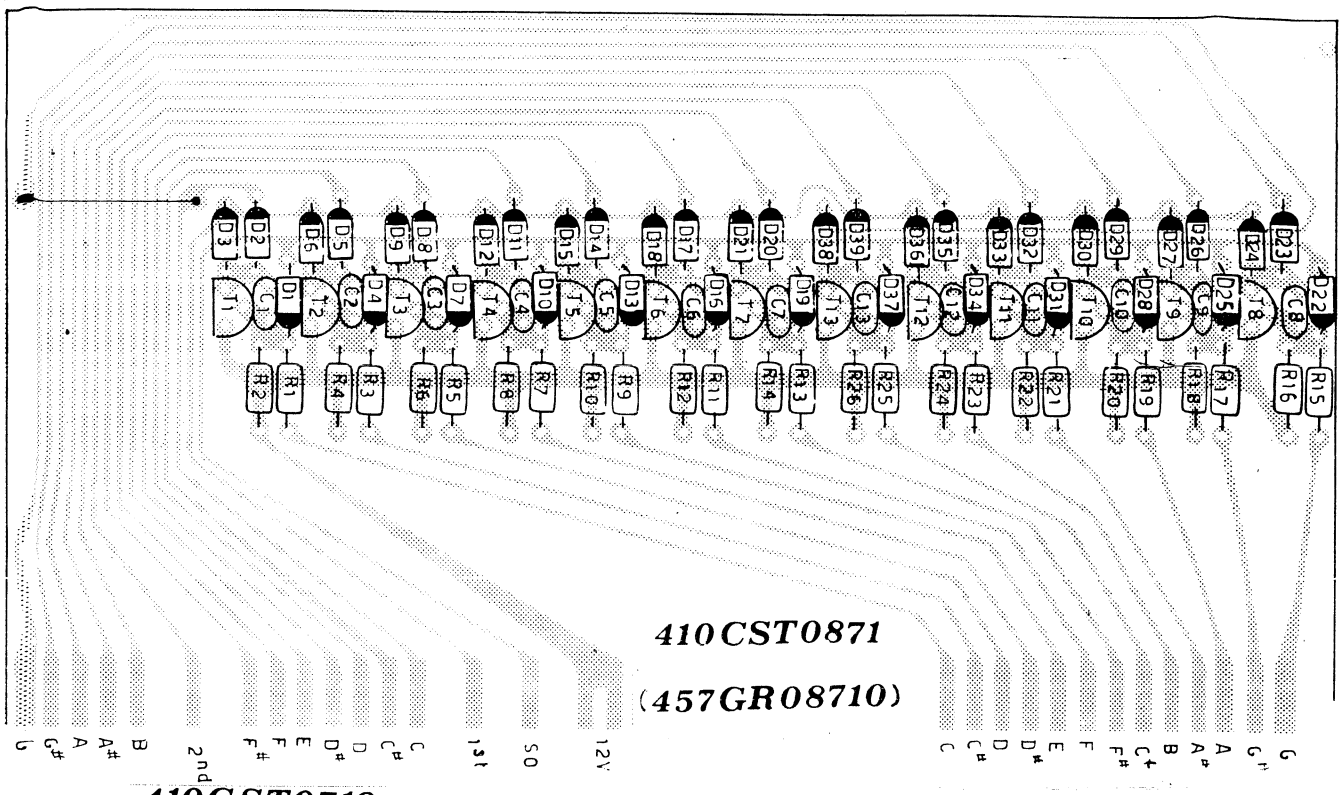
Code	Type	Transistors
T1 ÷ T24 T39	PNP	BC 415 B
T25-T38	NPN	BC 173

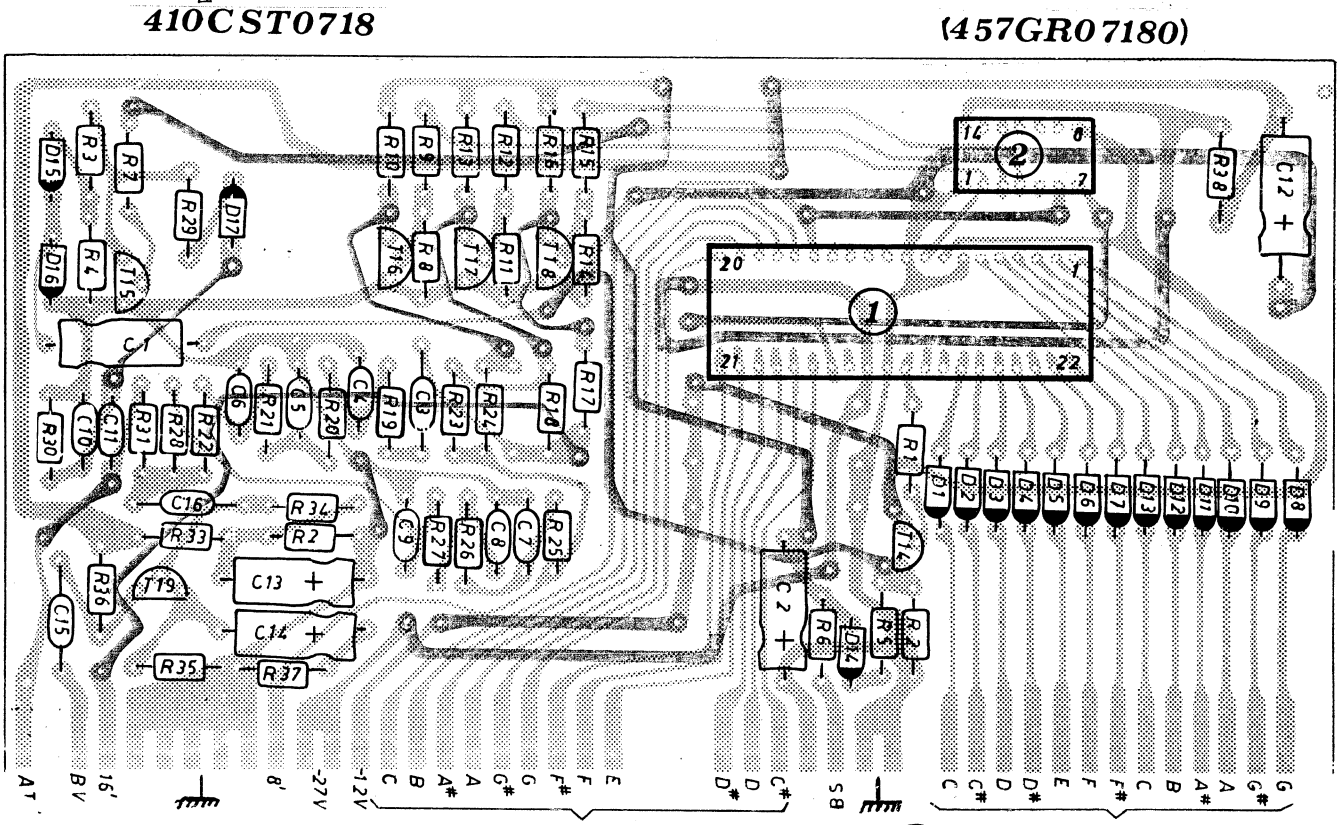
Integrated circuits		
Code	Type	Manufactured
1 - 6	4042	Fairchild
7	μA739 PC	
8 - 9	4016	
10	74 C 221	

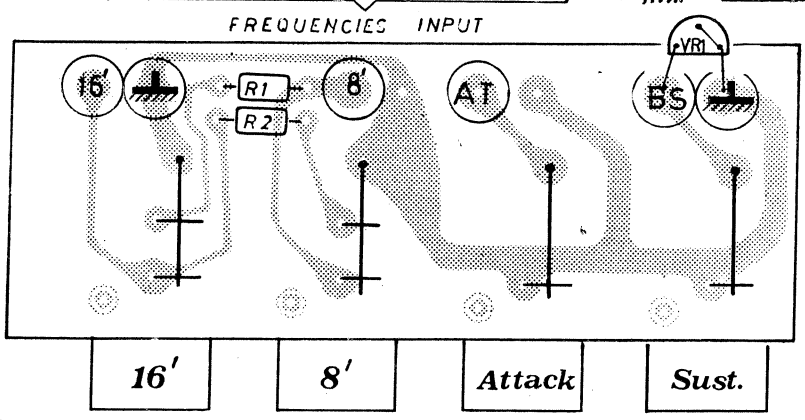
4016: Pin 7 = GND; Pin 14 = +12V

Model	Object:	Sheet No 22-60
X-705	Assembly of Printed Circuit	Date 24-9-77

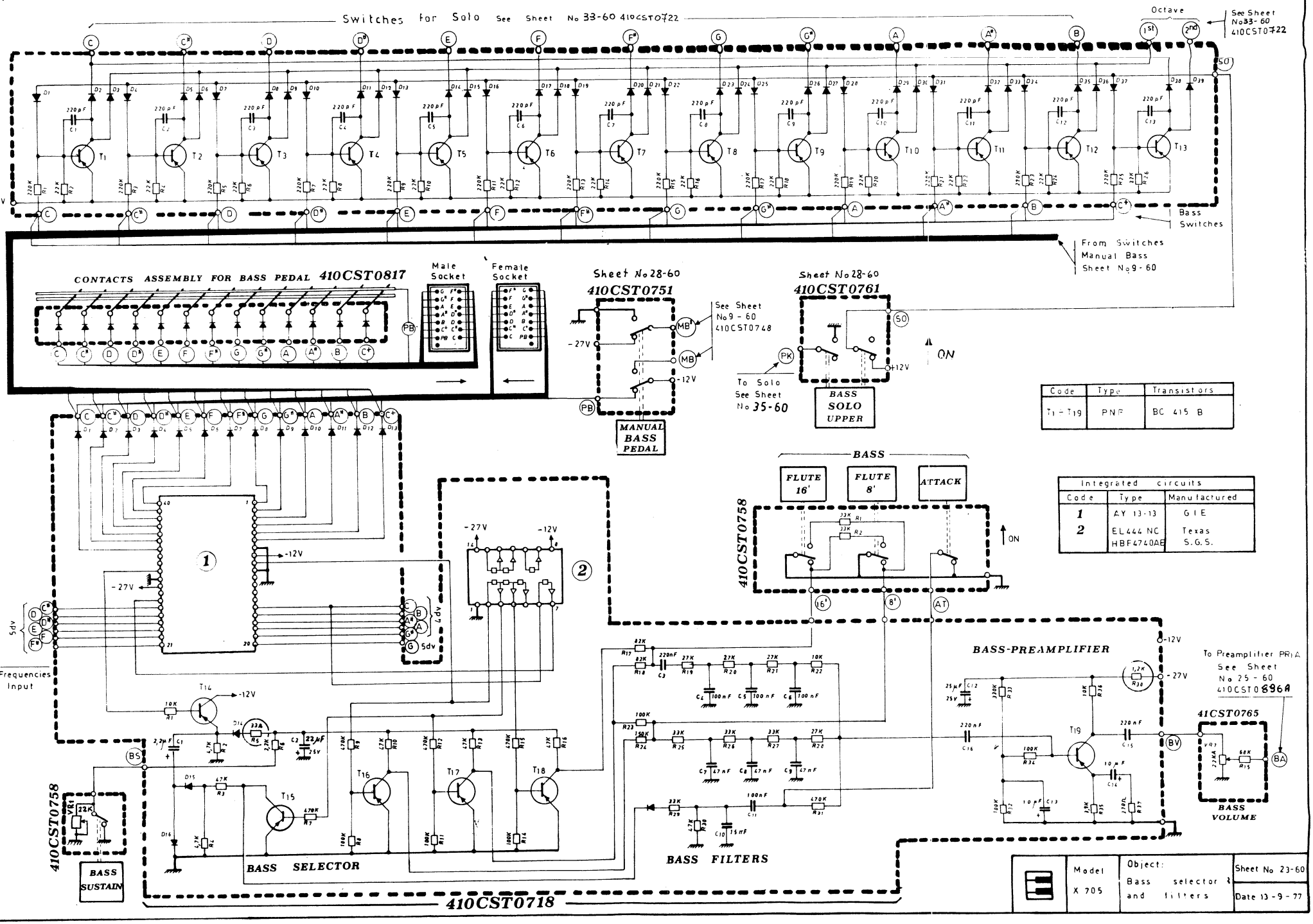
THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS



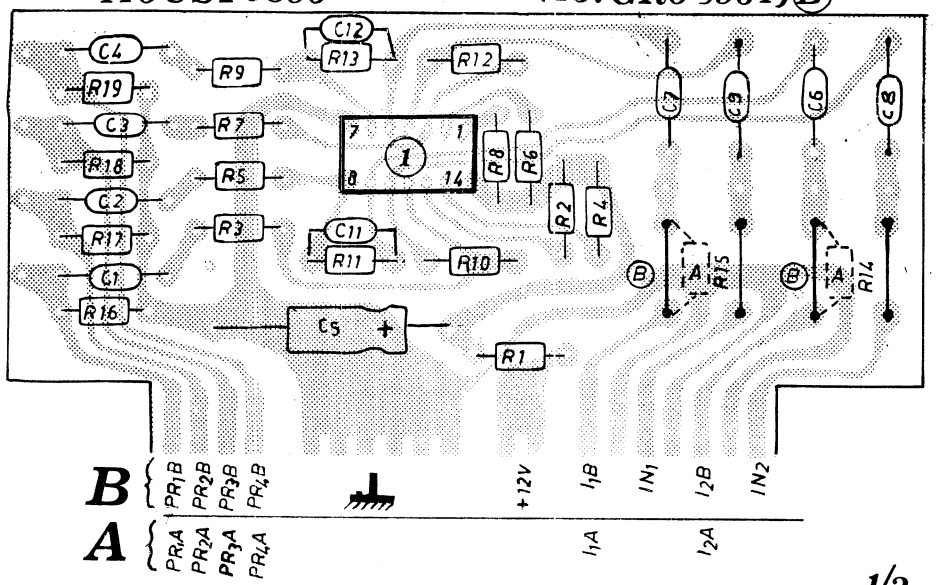




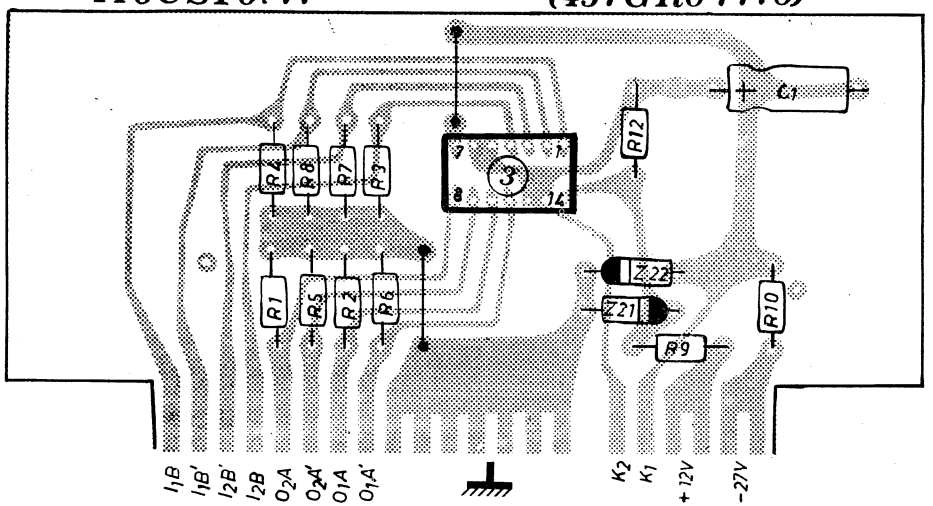
410CST0871


Switches for Solo See Sheet No 33-60 410CST0722
Octave
See Sheet No33-60 410CST0722
1st
2nd
+12V
Bass Switches
From Switches Manual Bass Sheet No 9-60
CONTACTS ASSEMBLY FOR BASS PEDAL 410CST0817
Male Socket
Female Socket
Sheet No 28-60 410CST0751
See Sheet No 9-60 410CST0748
-27V
-12V
MANUAL BASS PEDAL
Sheet No 28-60 410CST0761
ON
To Solo See Sheet No 35-60
BASS SOLO UPPER
Code | Type | Transistors
T1 - T19 | PNP | BC 415 B
BASS
FLUTE 16'
FLUTE 8'
ATTACK
410CST0758
Integrated circuits
Code | Type | Manufactured
1 | AY 13-13 | GIE
2 | EL444 NC | Texas
HBF4740AB | S.G.S.
Frequencies Input
5dv
4p7
BASS-PREAMPLIFIER
To Preamplifier PRIA See Sheet No 25-60 410CST0696A
41CST0765
BASS VOLUME
BASS SUSTAIN
BASS SELECTOR
BASS FILTERS
410CST0718
Model X 705
Object: Bass selector and filters
Sheet No 23-60
Date 13-9-77

410CST0896 (457GR08960)A (457GR08961)B

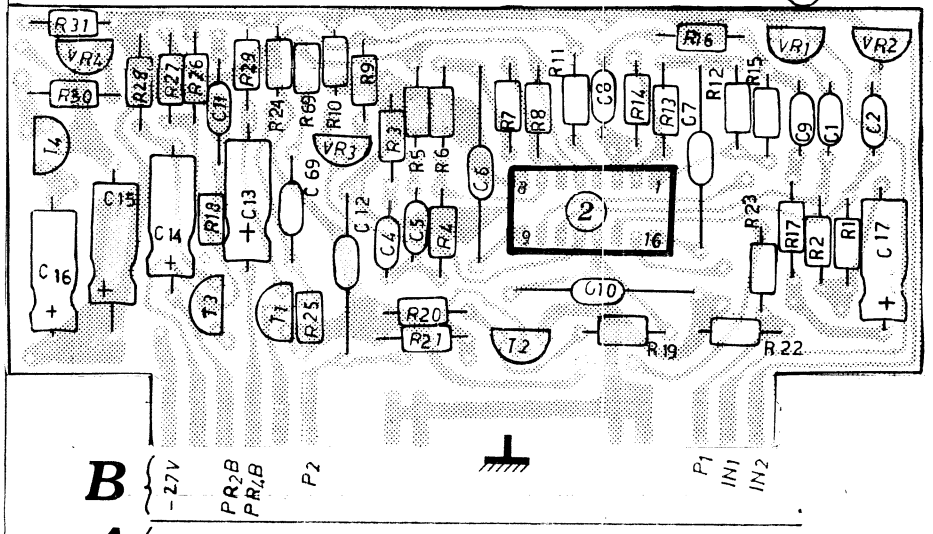

C4 R19 C3 R18 C2 R17 C1 R16 R9 R7 R5 R3 C12 R13 C11 R11 R12 R10 C5 R1 R8 R6 R2 R4 C7 C9 C6 C8 R15 R14
1 7 1 8 14
B PR1B PR2B PR3B PR4B +12V I1B IN1 I2B IN2
A PR1A PR2A PR3A PR4A I1A I2A

410CST0.77 (457GR07770)

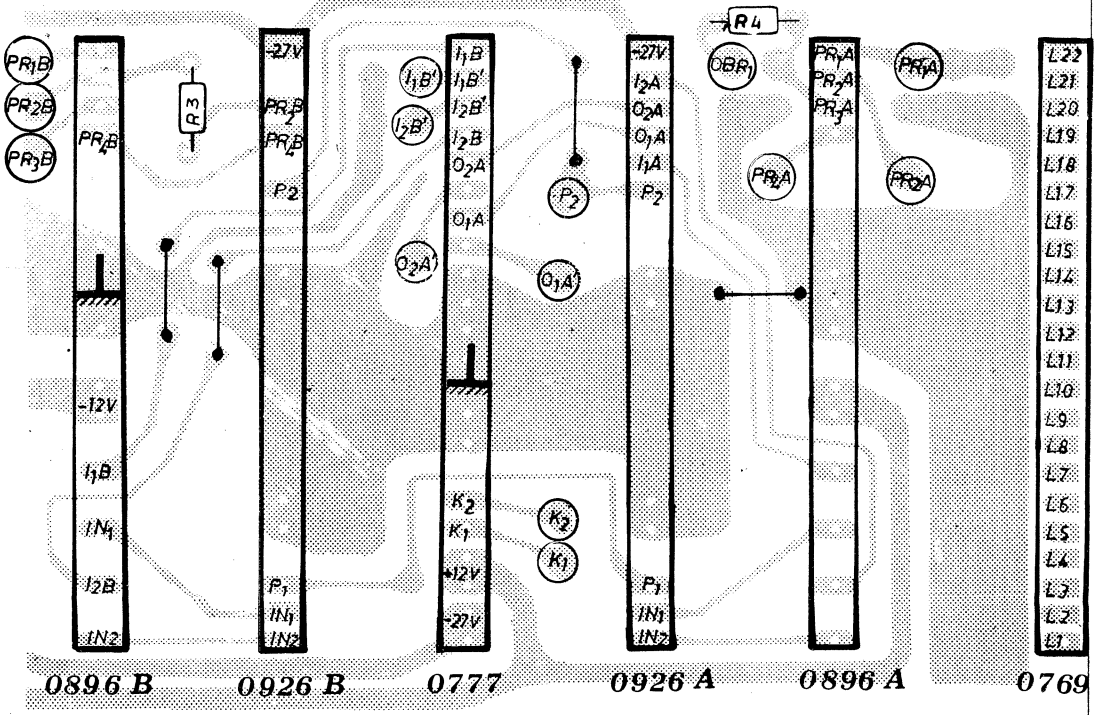


1/2 410CST0783 (457GR07830)

410CST0926 (457GR09260)A (457GR09261)B

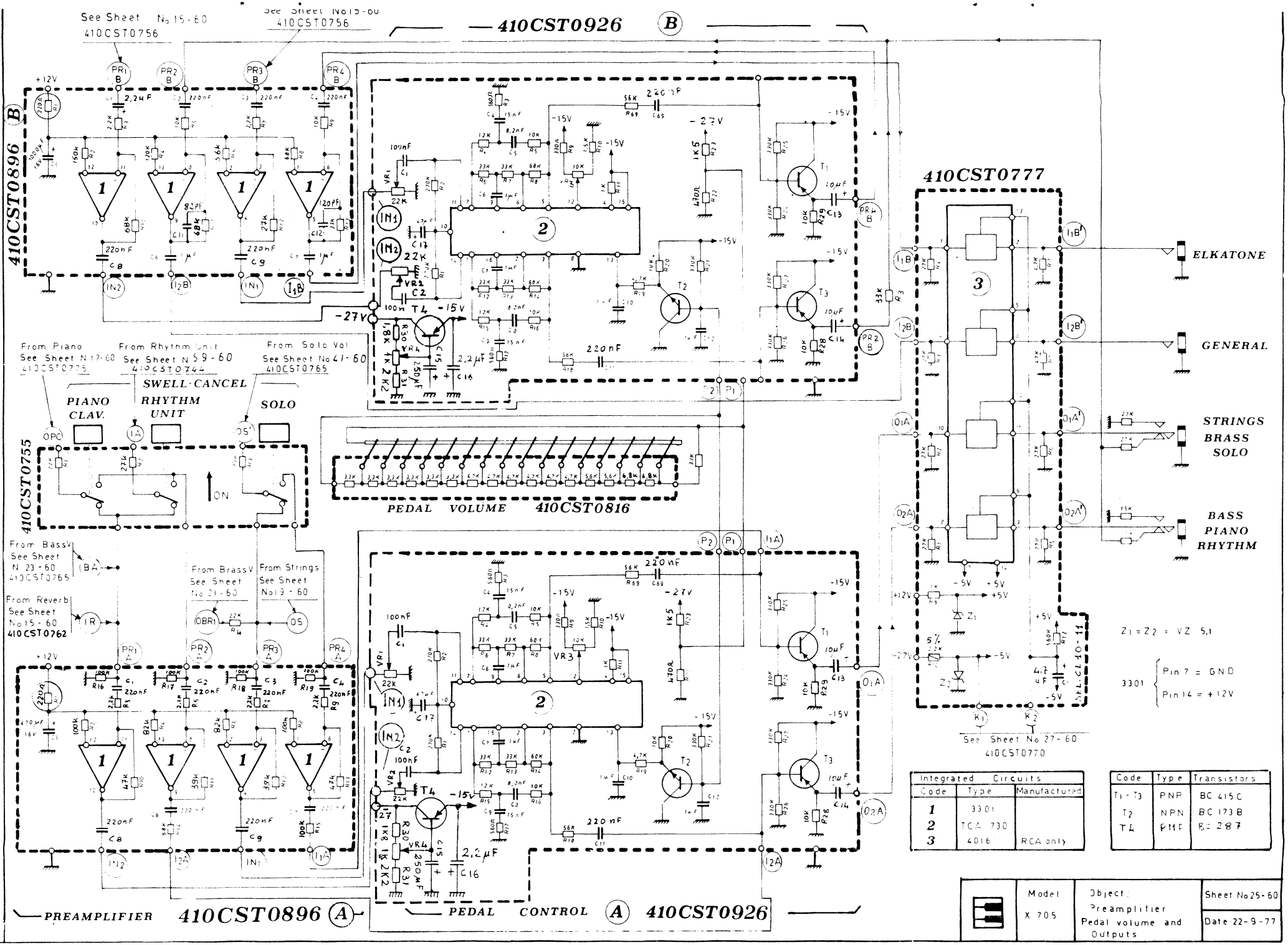


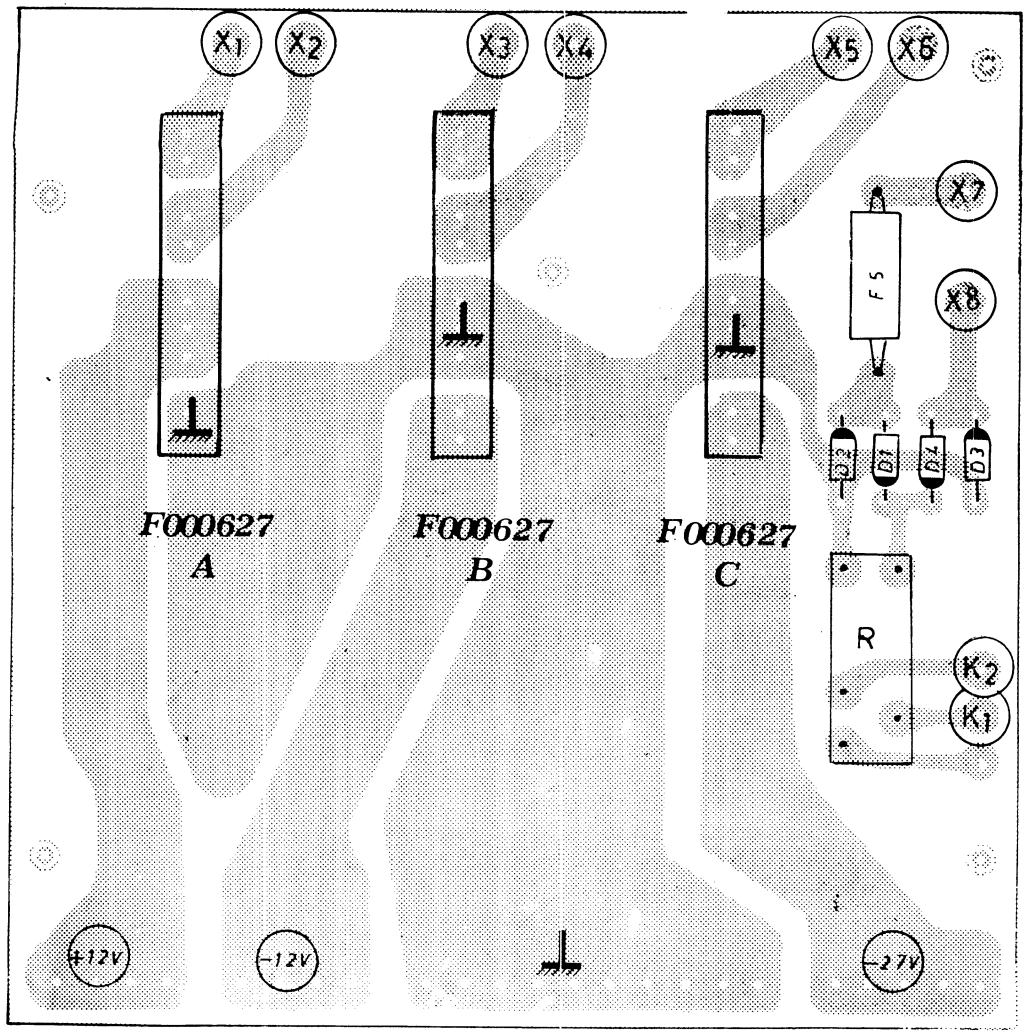
COPPER SIDE


PR1B PR2B PR3B PR4B R3 -12V I1B IN1 I2B IN2 -27V P2 P1 IN1 IN2 I1B I1B' I2B' I2B O2A O1A O2A' O1A' K2 K1 +12V -27V -27V I2A O2A O1A I1A P2 P1 IN1 IN2 R4 OBR1 PR1A PR2A PR3A PR4A PR1A PR2A L22 L21 L20 L19 L18 L17 L16 L15 L14 L13 L12 L11 L10 L9 L8 L7 L6 L5 L4 L3 L2 L1
0896 B 0926 B 0777 0926 A 0896 A 0769

	Model	Object	Sheet No 24-60
	X705	Assembly of Printed Circuit	Date 11-10-77

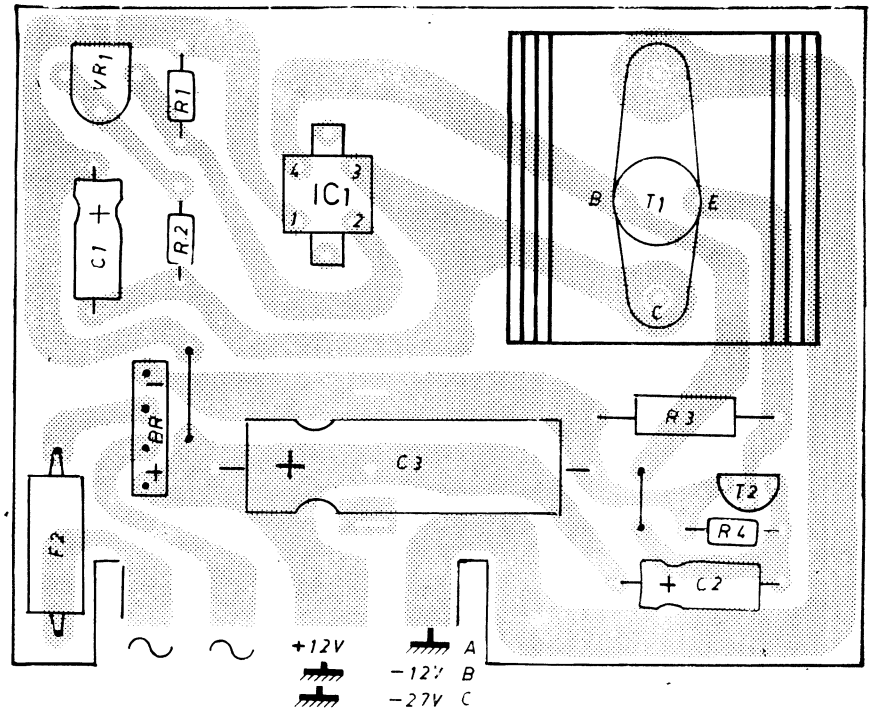
THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS


410CST0926 B
410CST0896 B
410CST0777
410CST0755
410CST0816
410CST0896 A
410CST0926 A
PREAMPLIFIER
PEDAL CONTROL
PEDAL VOLUME
SWELL-CANCEL
PIANO CLAV.
RHYTHM UNIT
SOLO
ON
ELKATONE
GENERAL
STRINGS BRASS SOLO
BASS PIANO RHYTHM
See Sheet No 15-60 410CST0756
See Sheet No 15-60 410CST0756
From Piano See Sheet N 17-60 410CST0775
From Rhythm Unit See Sheet N 59-60 410CST0744
From Solo Vol See Sheet No 41-60 410CST0765
From Bass V See Sheet N 23-60 410CST0765
From Reverb See Sheet No 15-60 410CST0762
From Brass V See Sheet No 21-60
From Strings See Sheet No 19-60
See Sheet No 27-60 410CST0770
Z1 = Z2 = VZ 5,1
3301 Pin 7 = GND Pin 14 = +12V
Integrated Circuits
Code | Type | Manufactured
1 | 3301 |
2 | TCA 730 |
3 | 4016 | RCA only
Code | Type | Transistors
T1 - T3 | PNP | BC 415 C
T2 | NPN | BC 173 B
T4 | PNP | BC 287
Model X 705
Object: Preamplifier Pedal volume and Outputs
Sheet No 25-60
Date 22-9-77

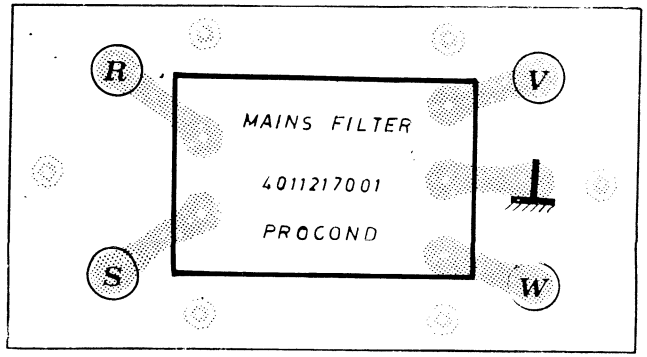


410CST0 770 (457PR07701)

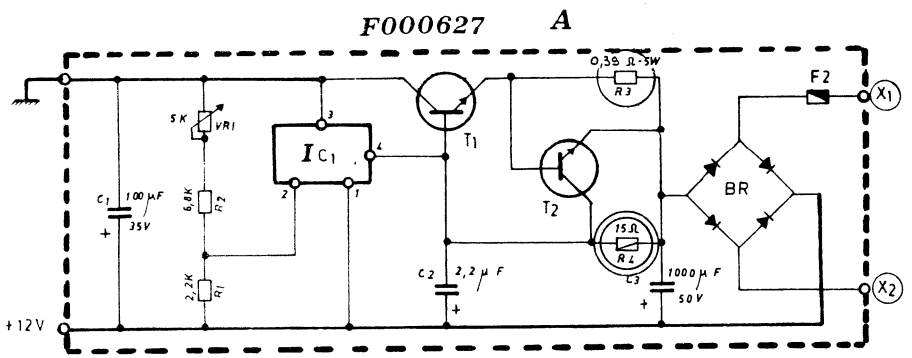
F000627 (457GR06274 - 12V)
(457GR06275 - 27V)

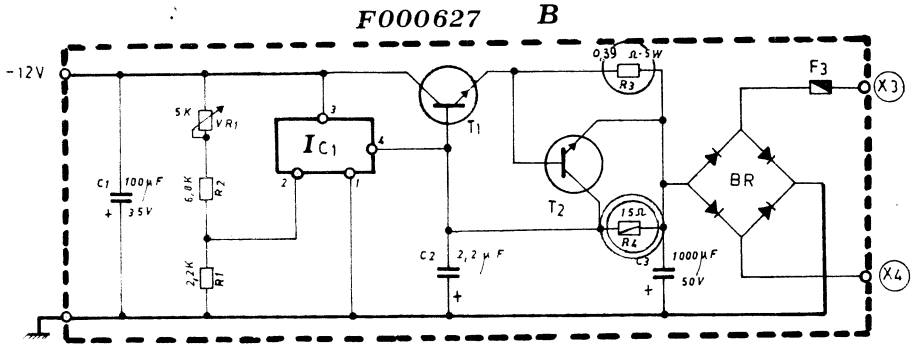


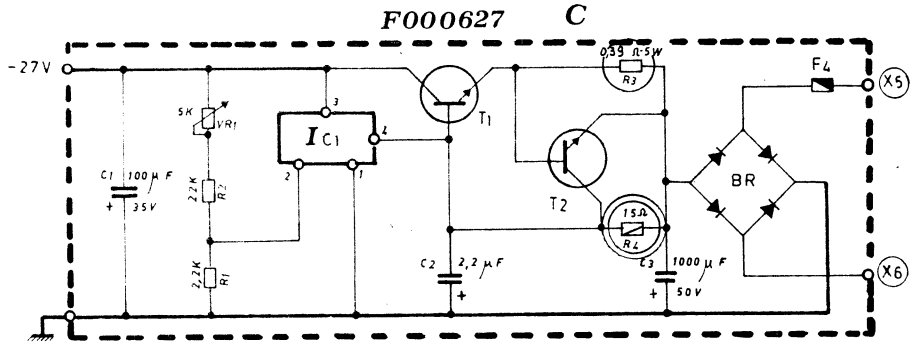
410CST0936 (427GR09360)

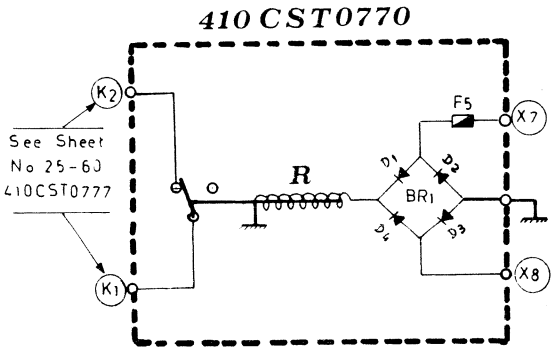


	Model	Object:	Sheet No 26-60
	X - 705	Assembly of Printed Circuit	Date 30-9-77









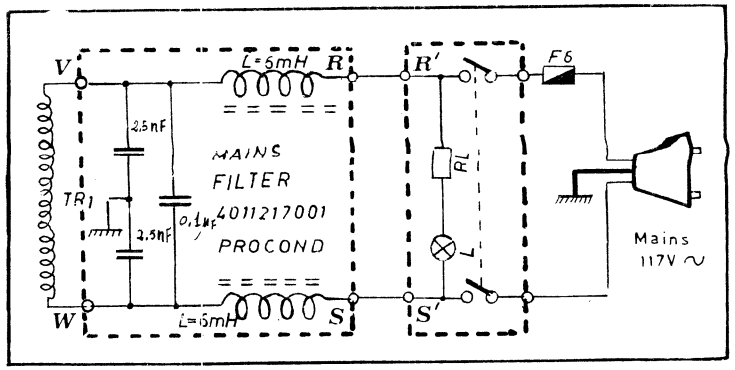
TR = Transformer T094N
BR = BSB2 G.I.E.
BR1 = 4x 10D2 or 4x1N40003

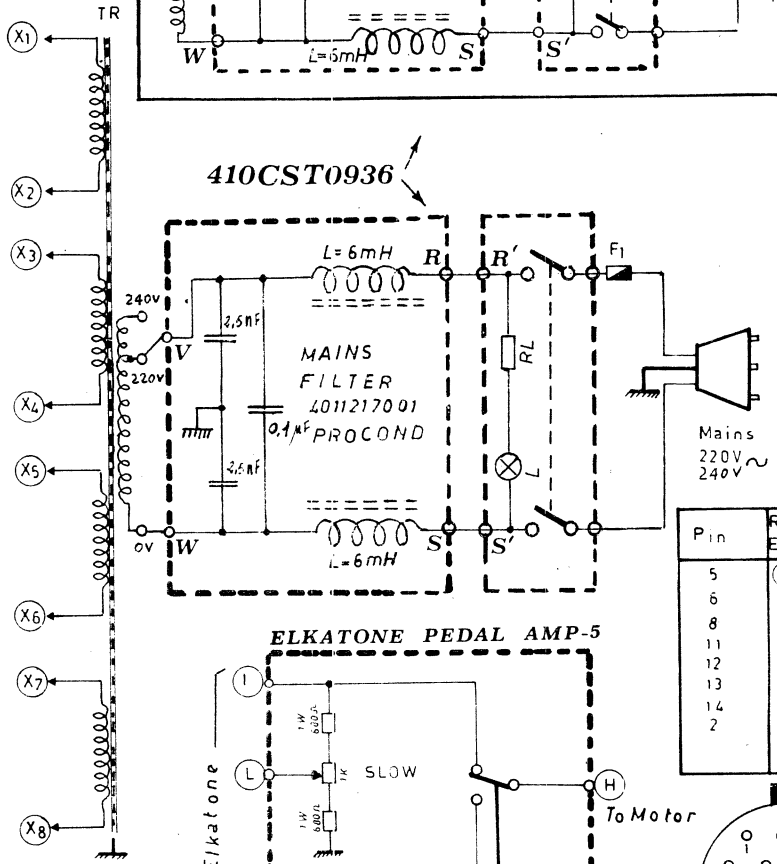
TR1 Transform T094K
SW+L = 2W-I-XII-03
F1 = Fuse 500mAT
F2 = Fuse 1,25AT
F3 = Fuse 1,25AT
F4 = Fuse 1,25AT
F5 = Fuse 125 mAT
F6 = Fuse 1AT

IC_1 = µA79MG

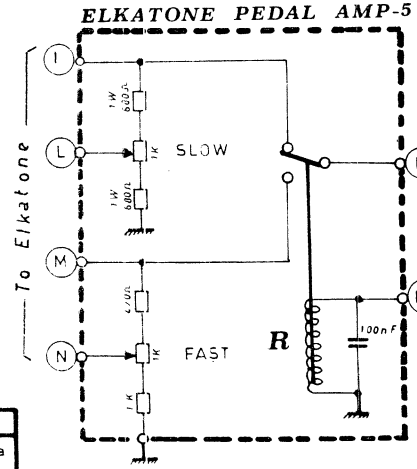
R = Relais R10 - 12V - 5A

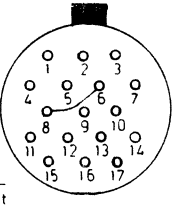
Code	Type	Transistors
T1	NPN	2N3055 Motorola
T2	NPN	BC 173





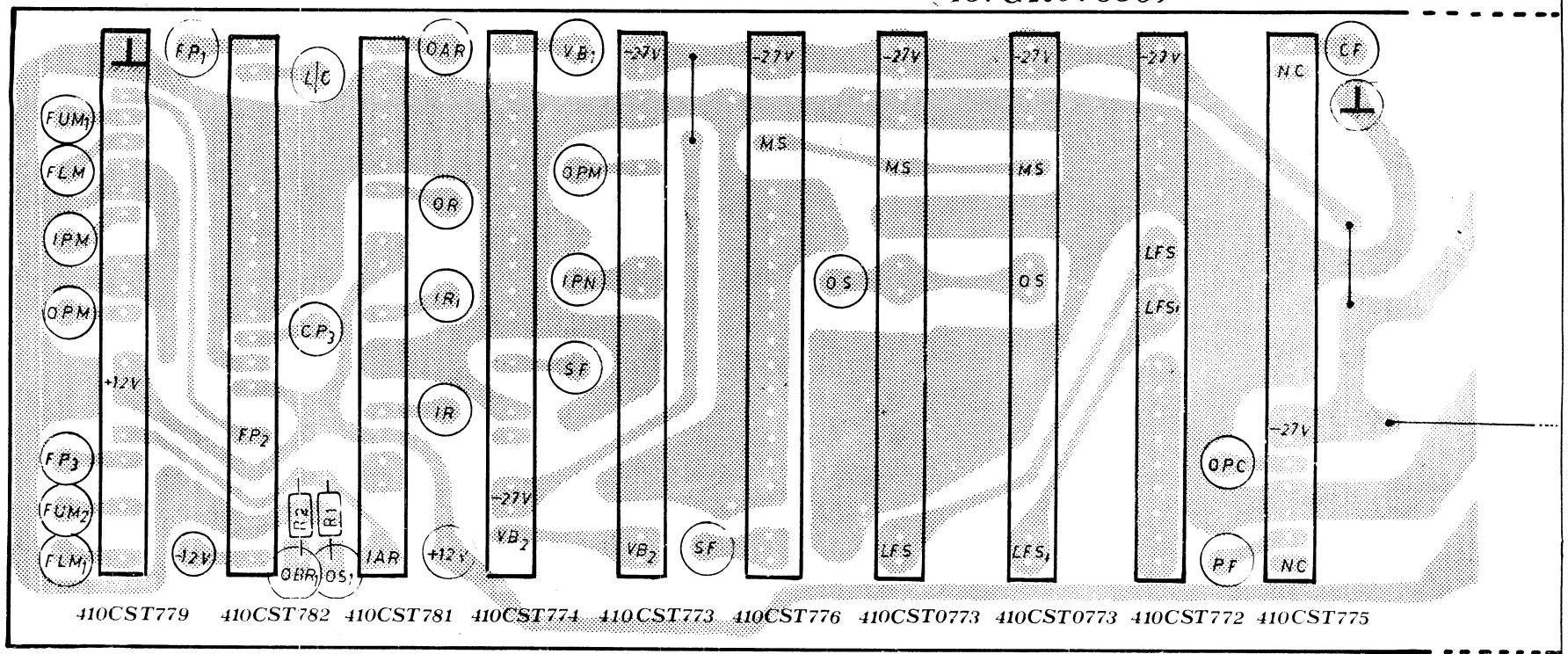
Pin	Reference Elkatone 610
5	(H) To motor
6	F
8	V
11	M
12	N
13	I
14	L
2	GND



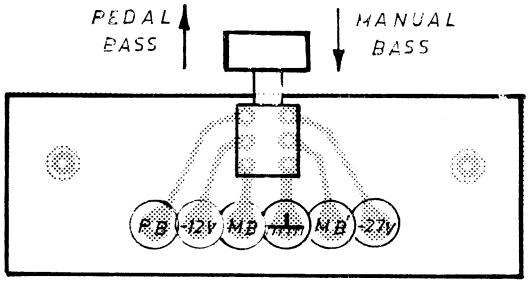


Model	Object:	Sheet No 27-60
X 705	Power Supply	Date 31 8 77

410CST0783 (457GR07830)

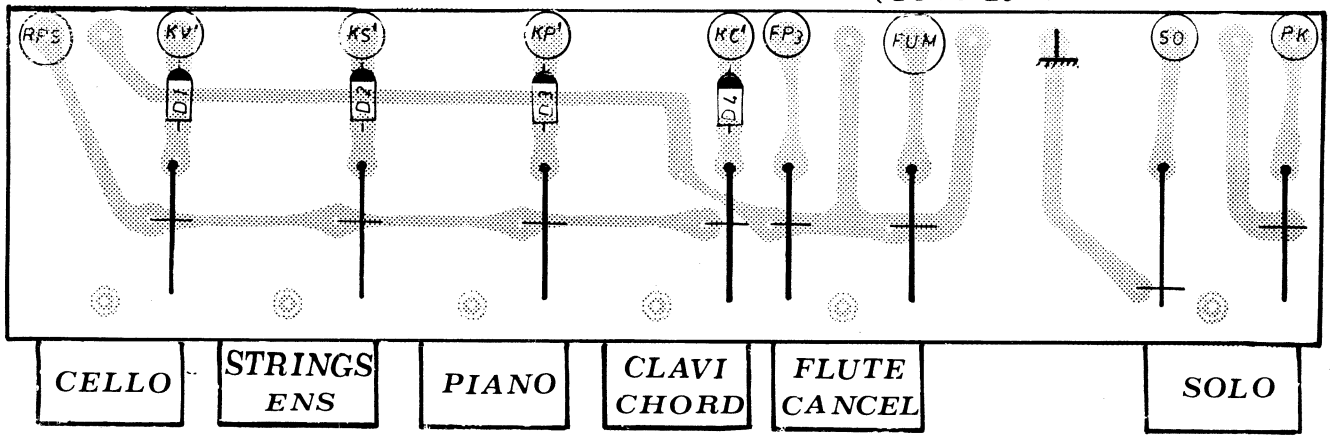


410CST779 410CST782 410CST781 410CST774 410CST773 410CST776 410CST0773 410CST0773 410CST772 410CST775



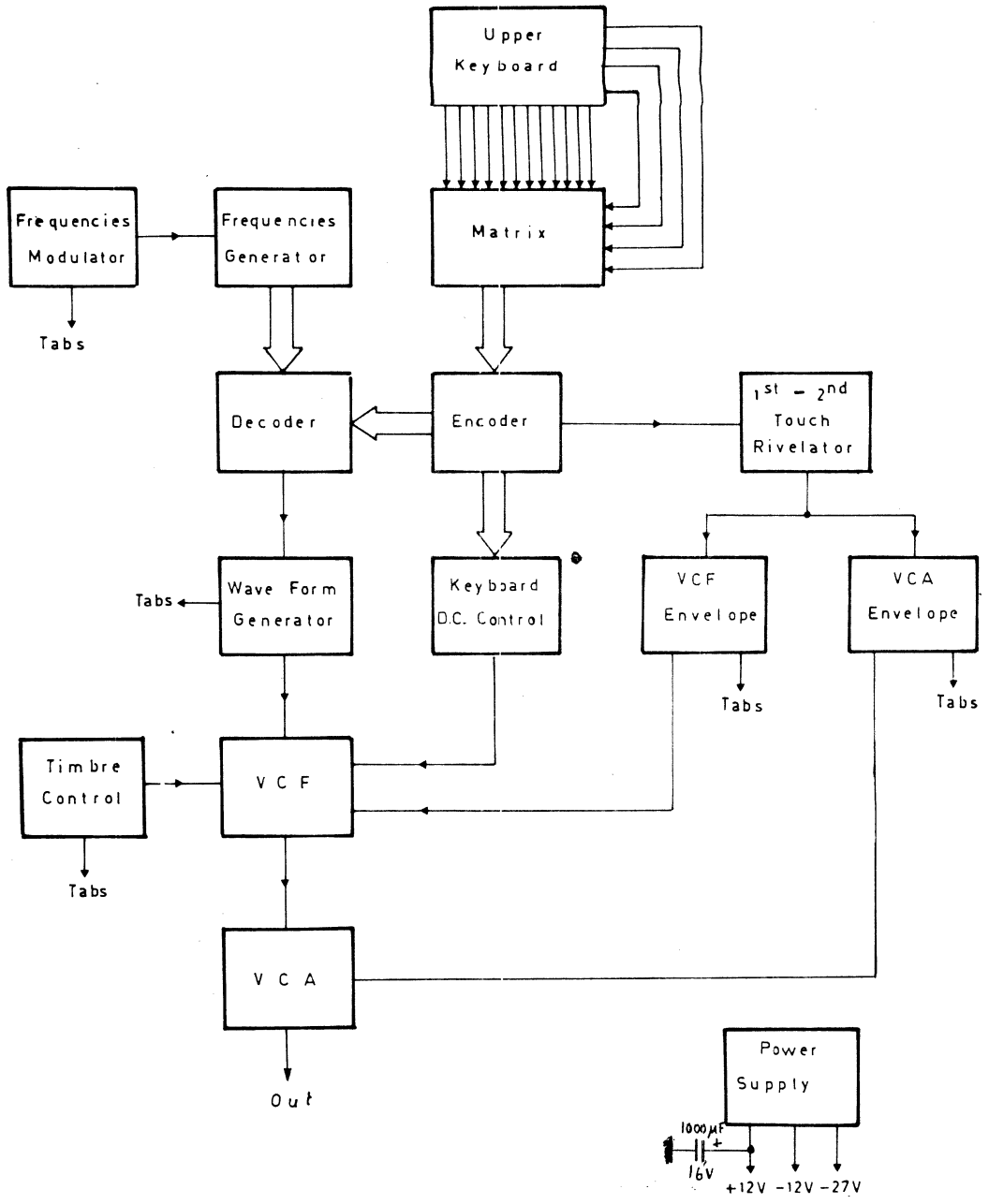
410CST0751 (457GR07510)

410CST0761 (457PR07610)

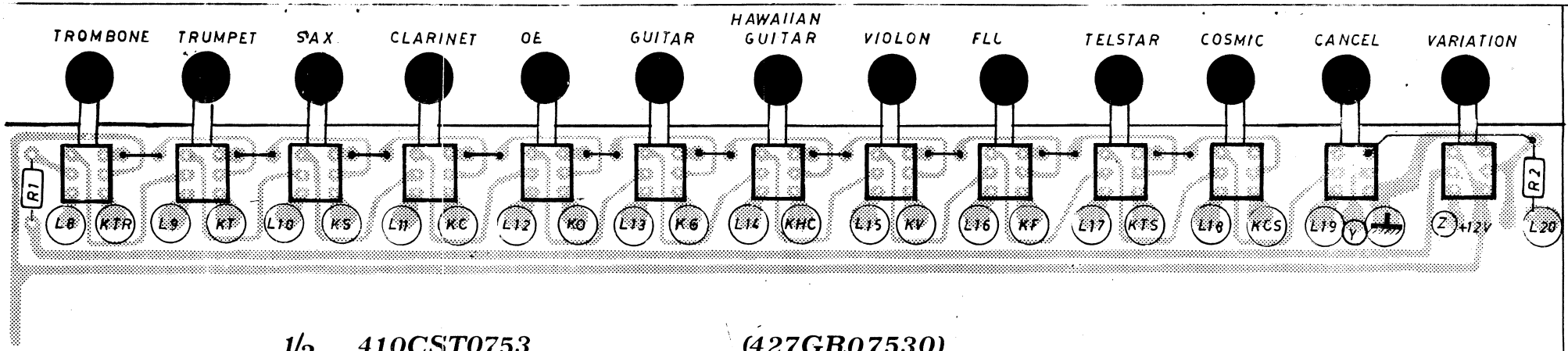


	Model X-705	Object: Assembly of Printed Circuit	Sheet No 28-60
			Date 11 10 77

SOLO



	Model	Object	Sheet No.
	X 705	Block Diagram	29-60
			Date 15-7-77

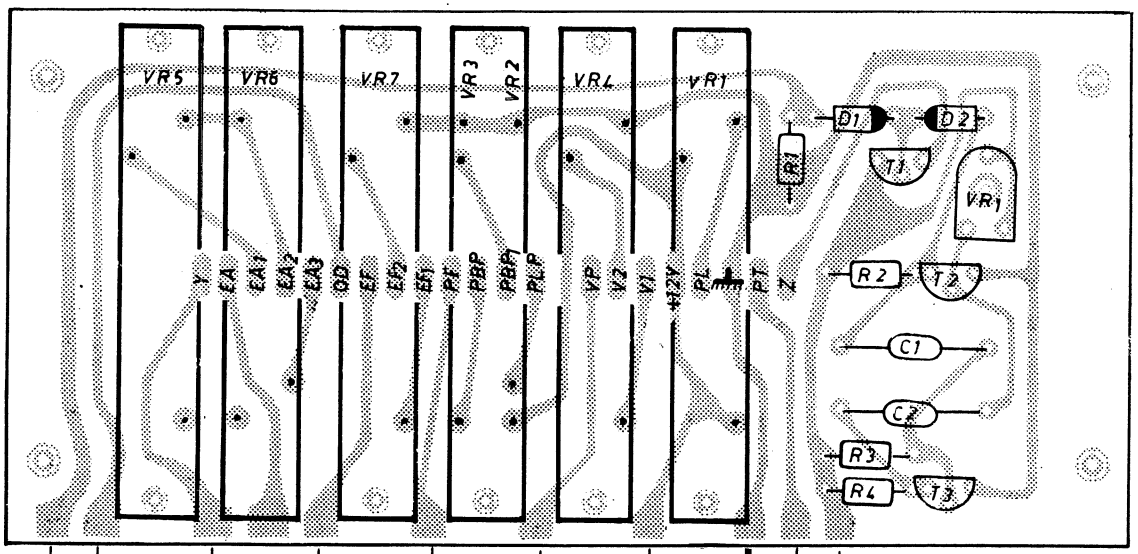


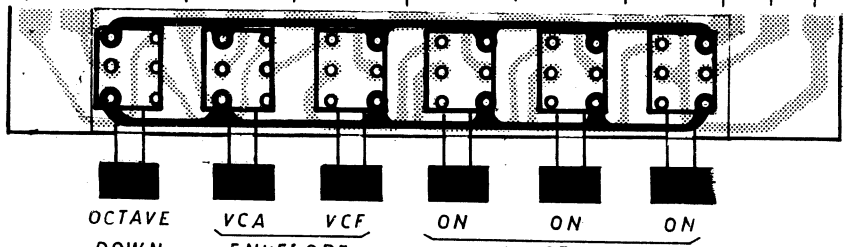
1/2 410CST0753 (427GR07530)

ATTACK SUSTAIN WOW FILTER VIBRATO BEND

410CST0730

(457PR07300)





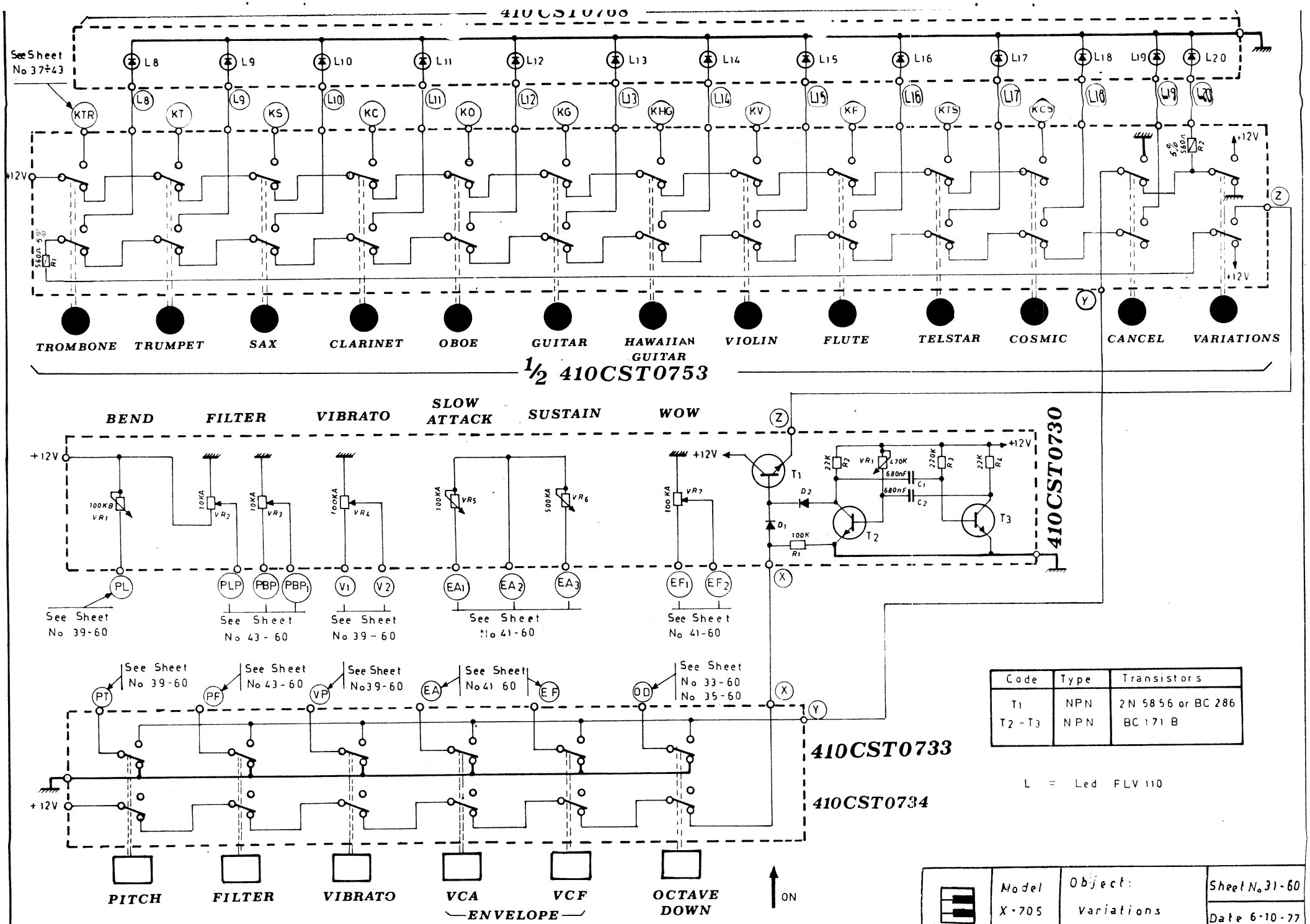
410CST0733

(427PR07330)

410CST0734

ON

	Model	Object:	Sheet No 30-60
	X-705	Assembly of Printed Circuit	Date 11-10-77

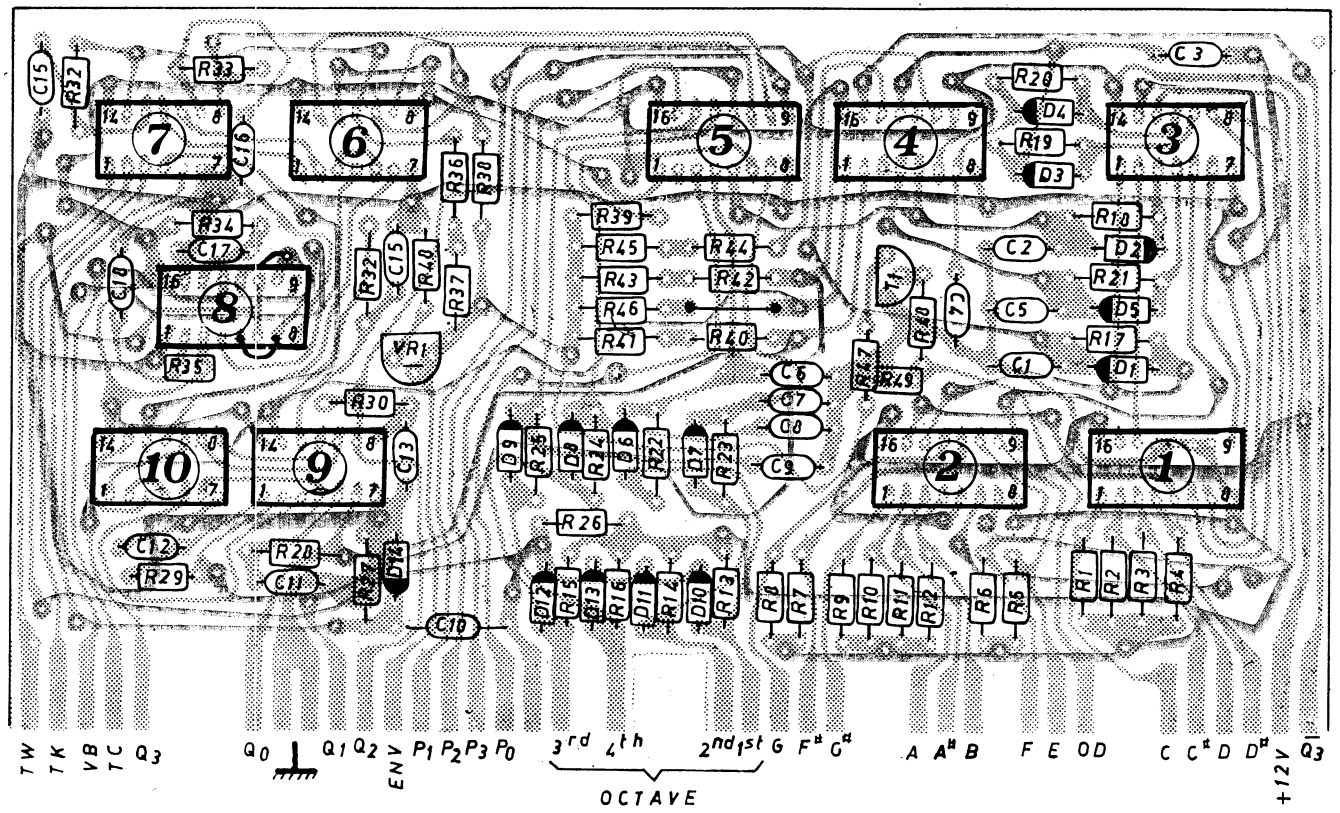


Code	Type	Transistors
T1	NPN	2N 5856 or BC 286
T2 - T3	NPN	BC 171 B

L = Led FLV 110

	Model	Object:	Sheet No. 31-60
	X-705	Variations	Date 6-10-77

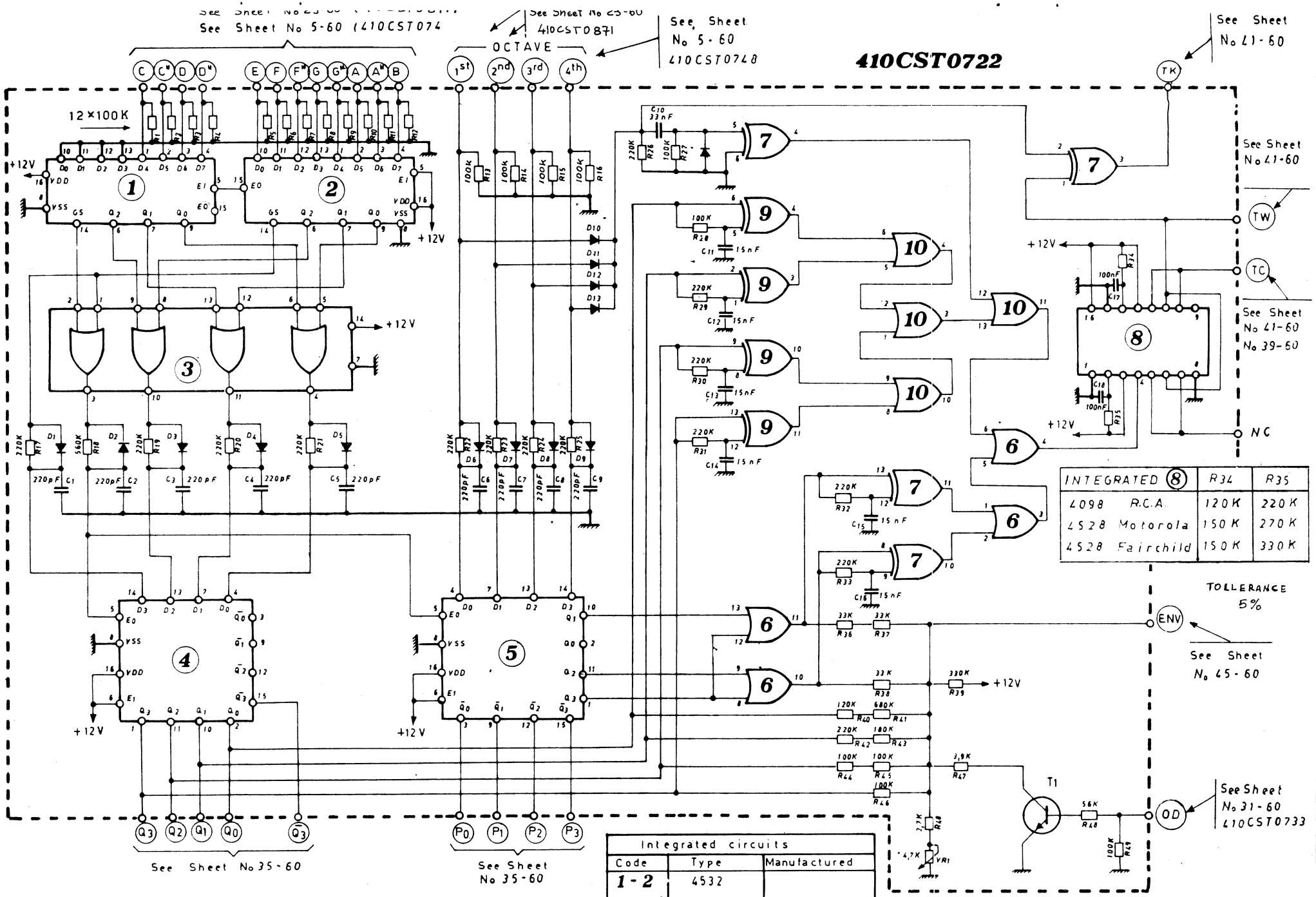
410CST0722 (427GR07220)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model	Object	Sheet No 32-60
	X-705	Assembly of Printed Circuit	Date 1-6-77

410CST0722


See Sheet No 5-60 (410CST074
See Sheet No 25-60 410CST0871
See Sheet No 5-60 410CST0748
See Sheet No 41-60
OCTAVE
C C# D D# E F F# G G# A A# B
1st 2nd 3rd 4th
12×100K
+12V
VDD VSS
GS Q2 Q1 Q0
E1 E0
D0 D1 D2 D3 D4 D5 D6 D7
1 2 3 4 5 6 7 8 9
TK TW TC NC ENV OD
See Sheet No 41-60
See Sheet No 41-60 No 39-60
See Sheet No 45-60
See Sheet No 31-60 410CST0733
TOLLERANCE 5%
T1
VR1
Q3 Q2 Q1 Q0 Q3
P0 P1 P2 P3
See Sheet No 35-60
See Sheet No 35-60

INTEGRATED (8)	R34	R35
4098 R.C.A.	120K	220K
4528 Motorola	150K	270K
4528 Fairchild	150K	330K

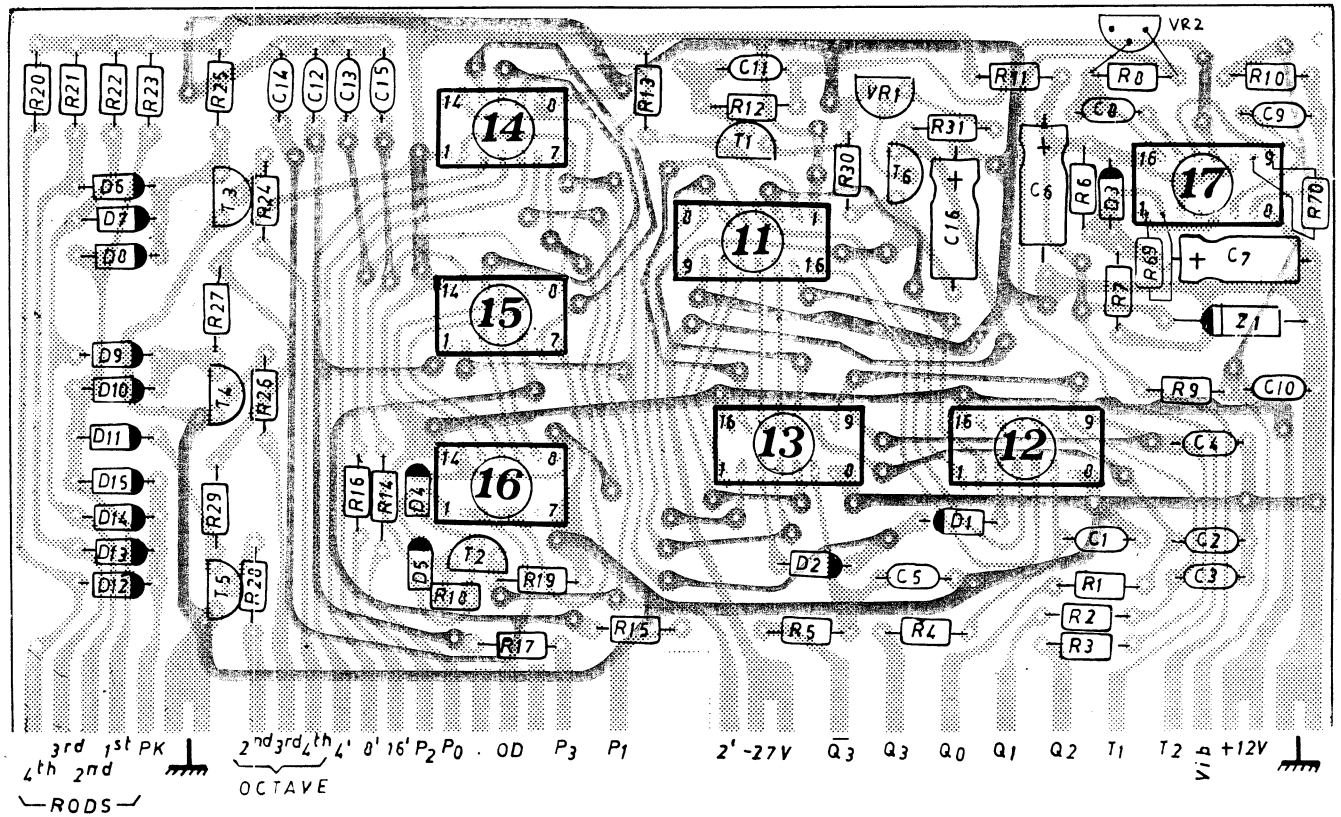
Code	Type	Transistors
T1	NPN	BC173

3-6-10 } Pin 7 = GND
7-9 } Pin14 = +12V

Integrated circuits		
Code	Type	Manufactured
1-2	4532	
3-6-10	4071	
4-5	4042	
7-9	4030	
8	4528	

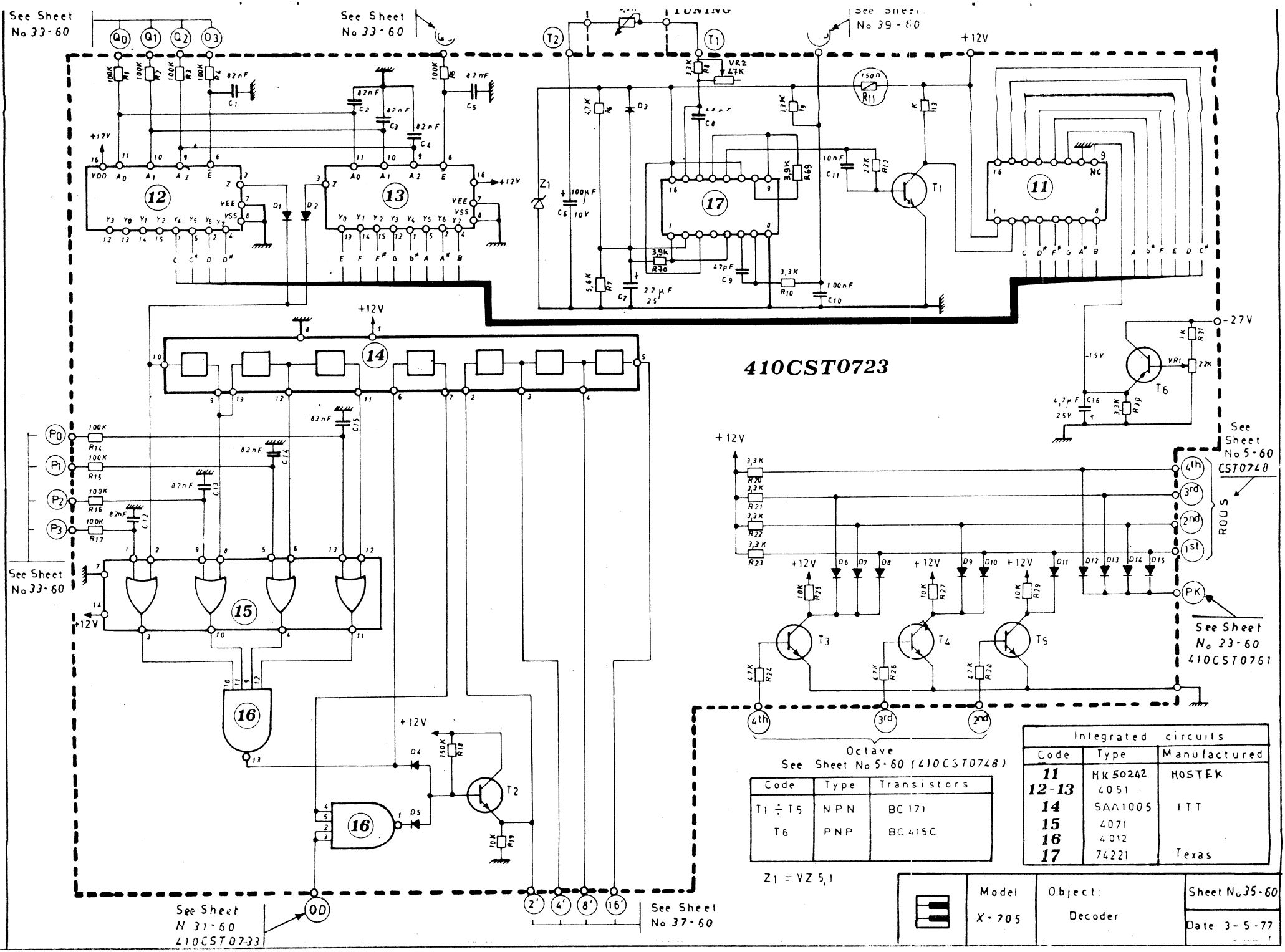
Model	Object	Sheet No 33-60
X 705	Encoder Puls generetor D/A converter	Date 6-5-77

410CST0723 (427GR07230)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS

	Model	Object	Sheet No 34-50
	X-705	Assembly of Printed Circuit	Date 1-6-77

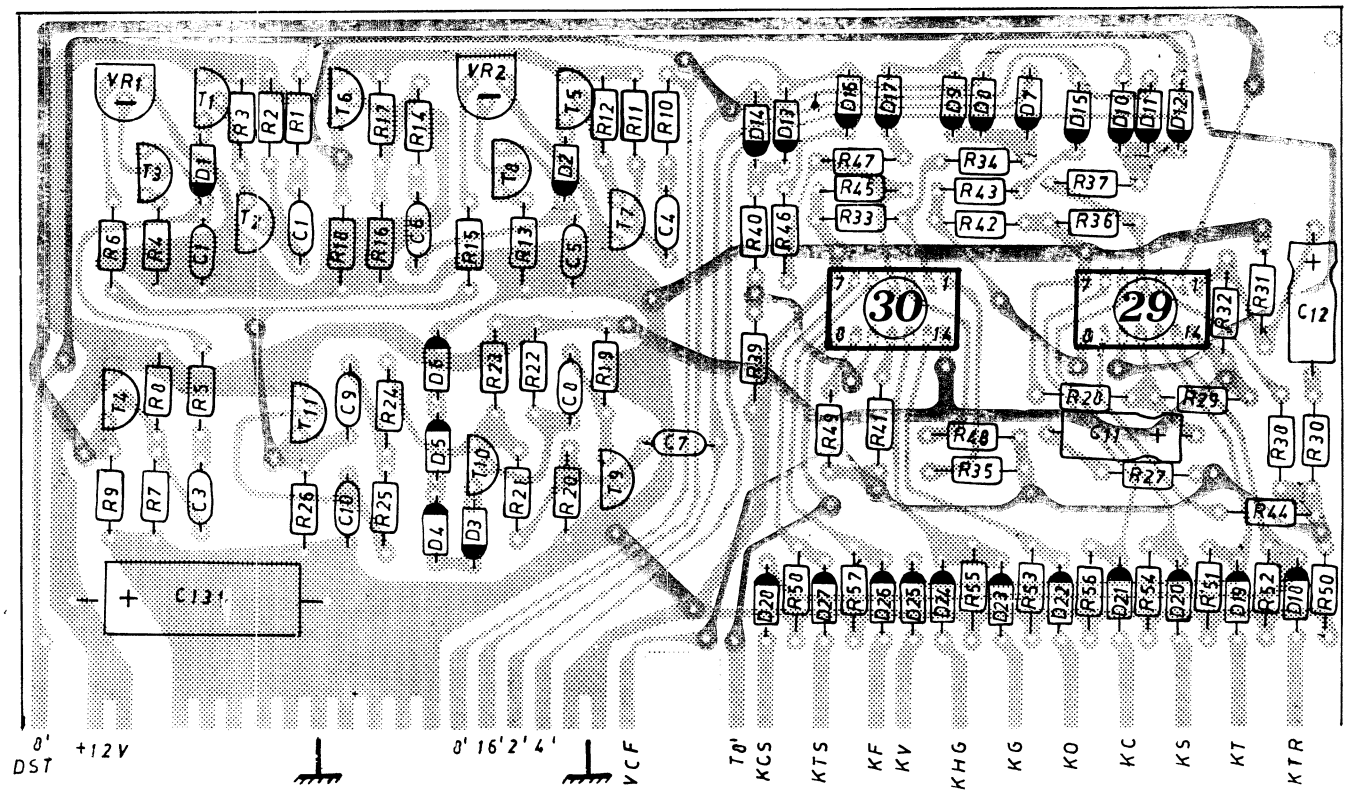


Code	Type	Transistors
T1 ÷ T5	NPN	BC 171
T6	PNP	BC 415C

Integrated circuits		
Code	Type	Manufactured
11	MK 50242	MOSTEK
12-13	4051	
14	SAA1005	ITT
15	4071	
16	4012	
17	74221	Texas

	Model	Object	Sheet No.
	X-705	Decoder	35-60
			Date 3-5-77

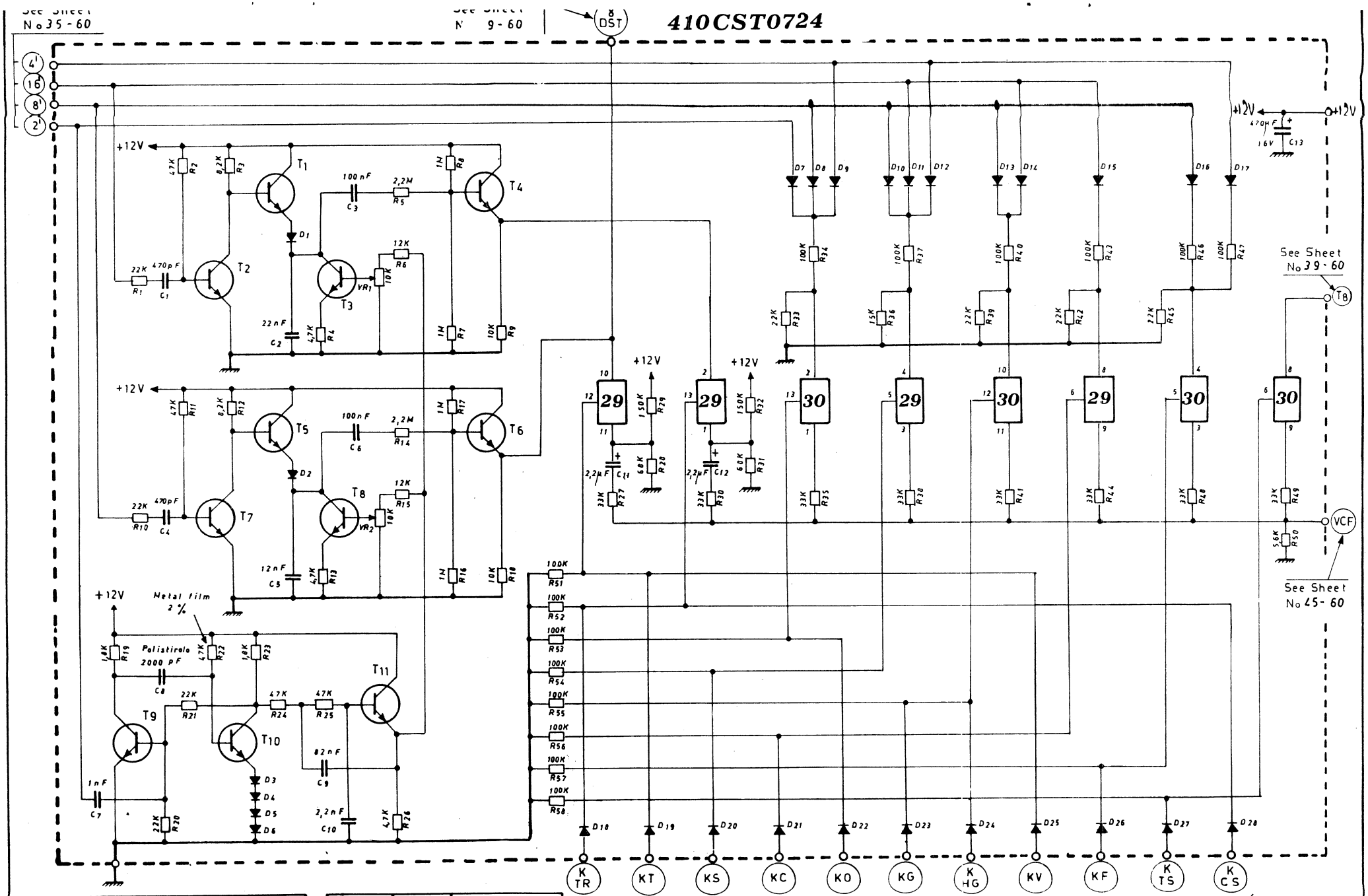
410CST0724 (427GR07240)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model	Object	Sheet No 36-50
	X-705	Assembly of Printed Circuit	Date 2-6-77

410CST0724



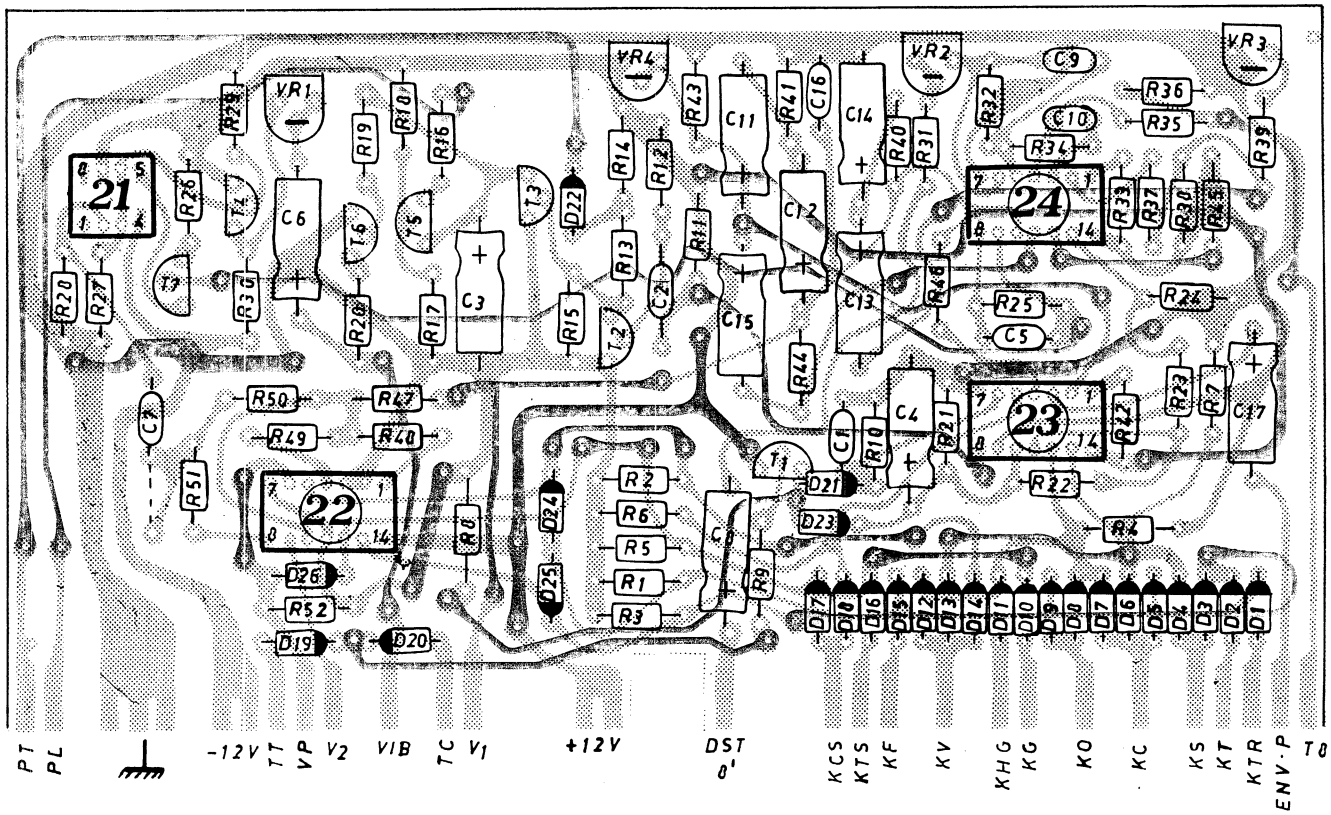
Integrated circuits		
Code	Type	Manufactured
29 - 30	4016	

Code	Type	Transistors
T1 ÷ T11	NPN	BC 173

4016 { Pin 7 = GND
Pin 14 = +12V

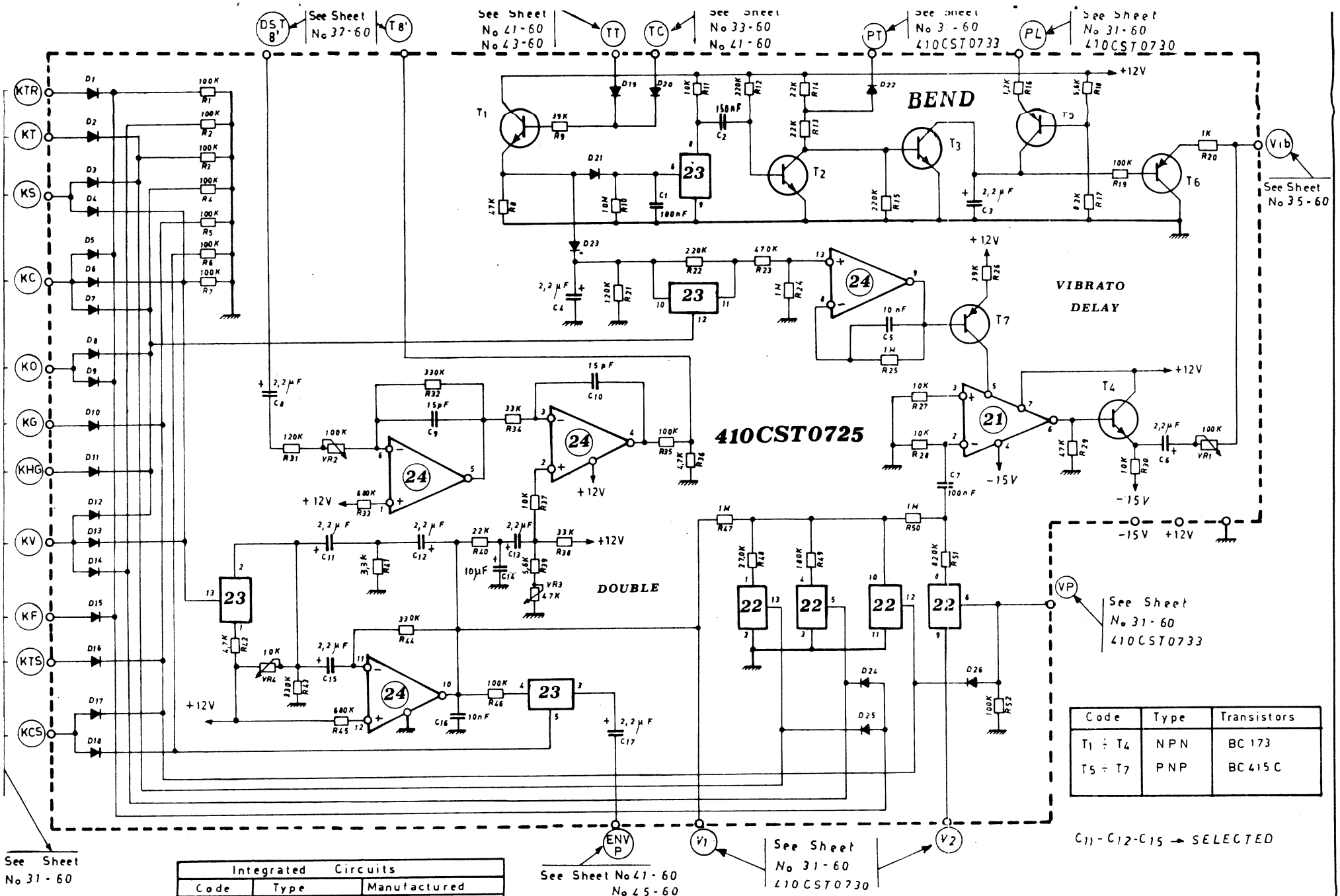
	Model	Object:	Sheet No 37-60
	X - 705	Wave form generator	Date 28-7-77

410CST0725 (427GR07250)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model X-705	Object Assembly of Printed Circuit	Sheet No 38-60
			Date 2-7-77



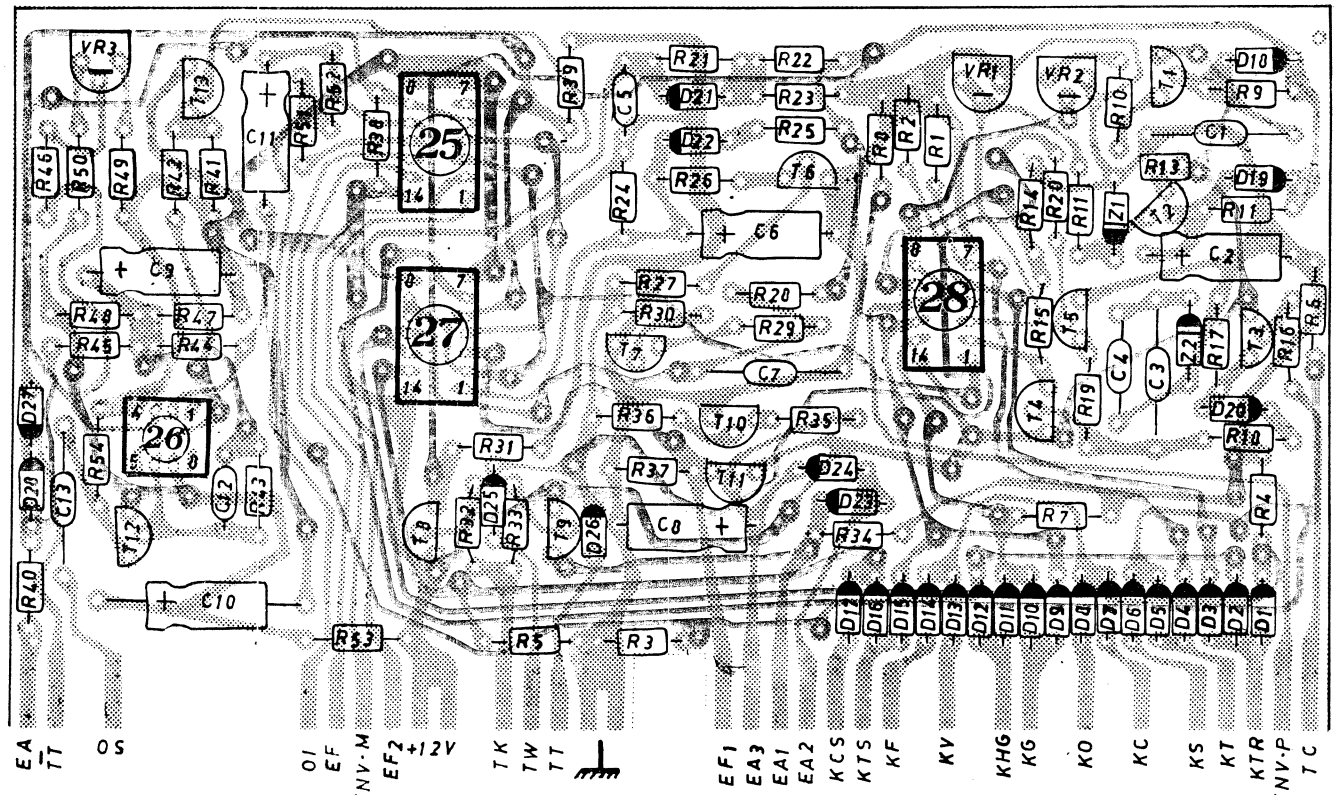
Integrated Circuits		
Code	Type	Manufactured
21	CA 3080	R.C.A.
22 - 23	4016	
24	3301	Fairchild

4016 | Pin 7 = GND
Pin 14 = +12V

Code	Type	Transistors
T1 ÷ T4	NPN	BC 173
T5 ÷ T7	PNP	BC 415 C

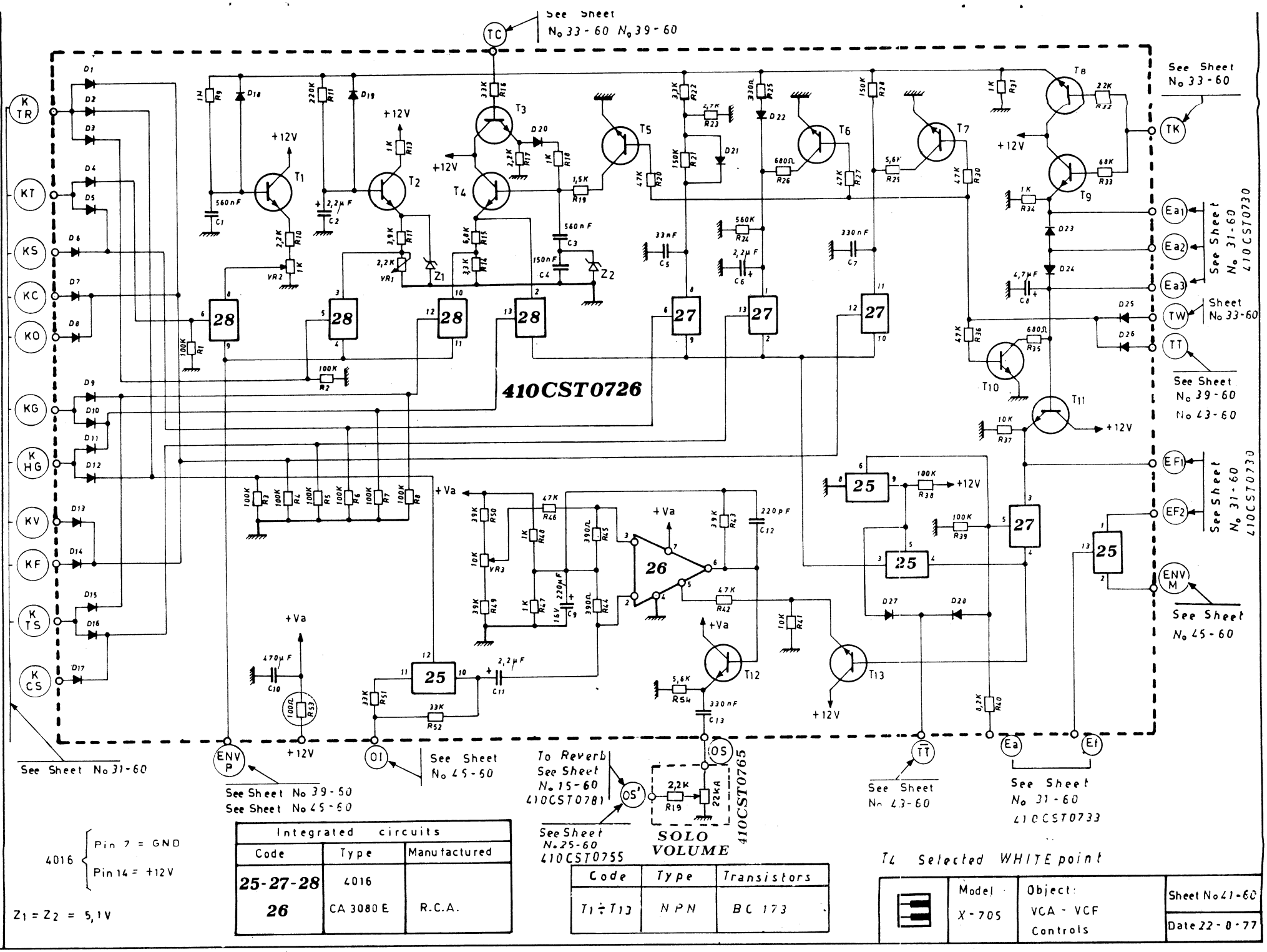
	Model	Object:	Sheet No 39-60
	X - 705	Vibrato Telstar Pitch band circuit	Date 22-0-77

410CST0726 (427GR07260)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model	Object	Sheet No 40-60
	X 705	Assembly of Printed Circuit	Date 3-6-77



Integrated circuits		
Code	Type	Manufactured
25-27-28	4016	
26	CA 3080 E	R.C.A.

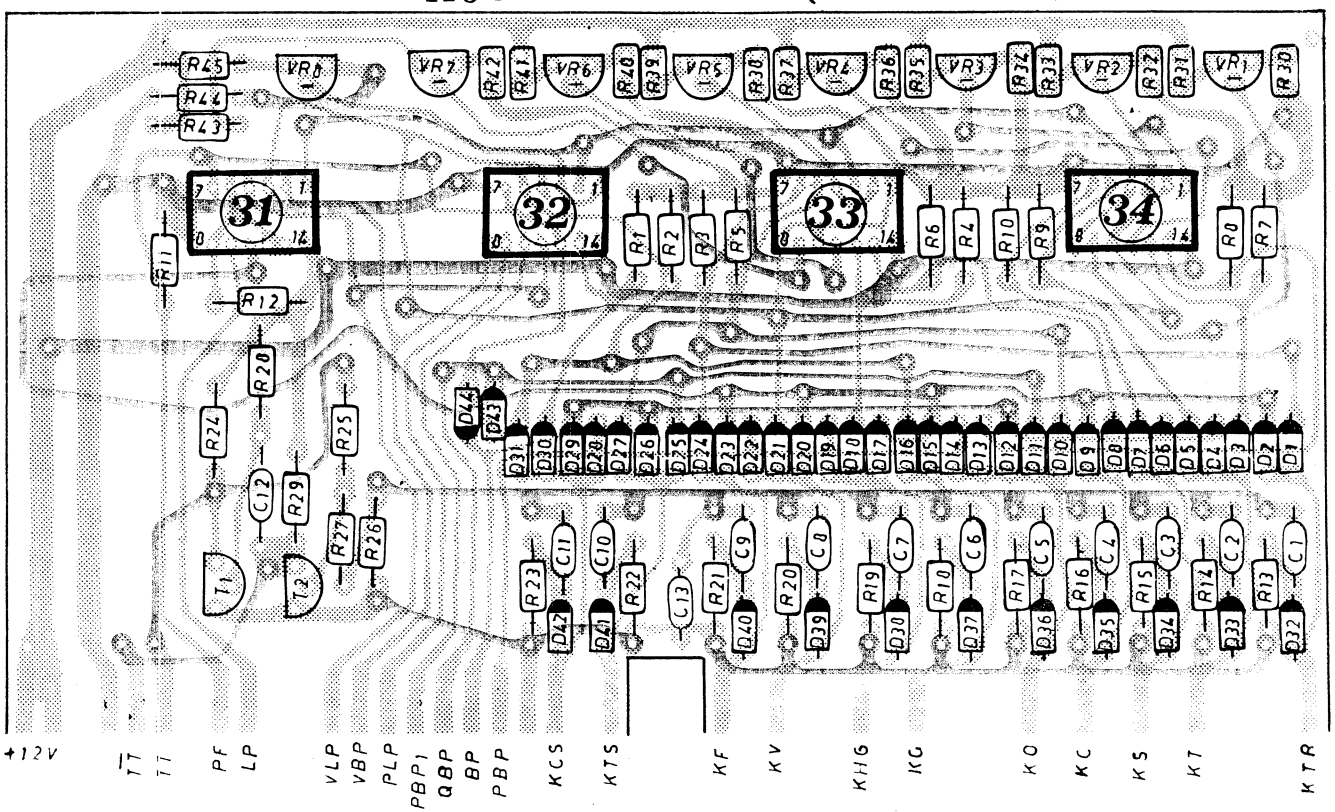
4016: Pin 7 = GND; Pin 14 = +12V

$Z_1 = Z_2 = 5,1V$

Code	Type	Transistors
T1 ÷ T13	NPN	BC 173

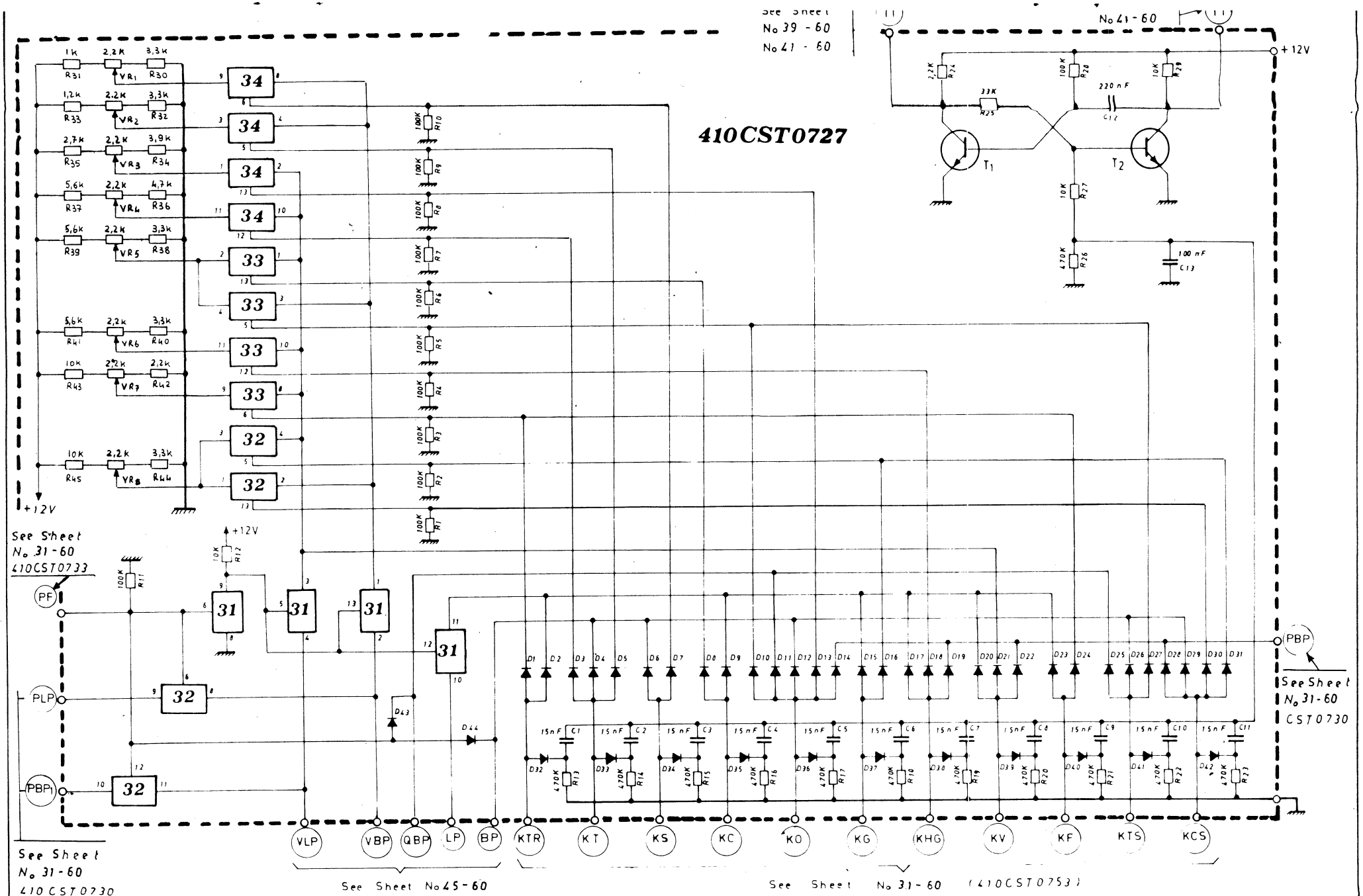
	Model X-705	Object: VCA - VCF Controls	Sheet No 41-60
			Date 22-0-77

410CST0727 (457GR07270)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model X 705	Object: Assembly of Printed Circuit	Sheet No. 42-60
			Date 25-10-77



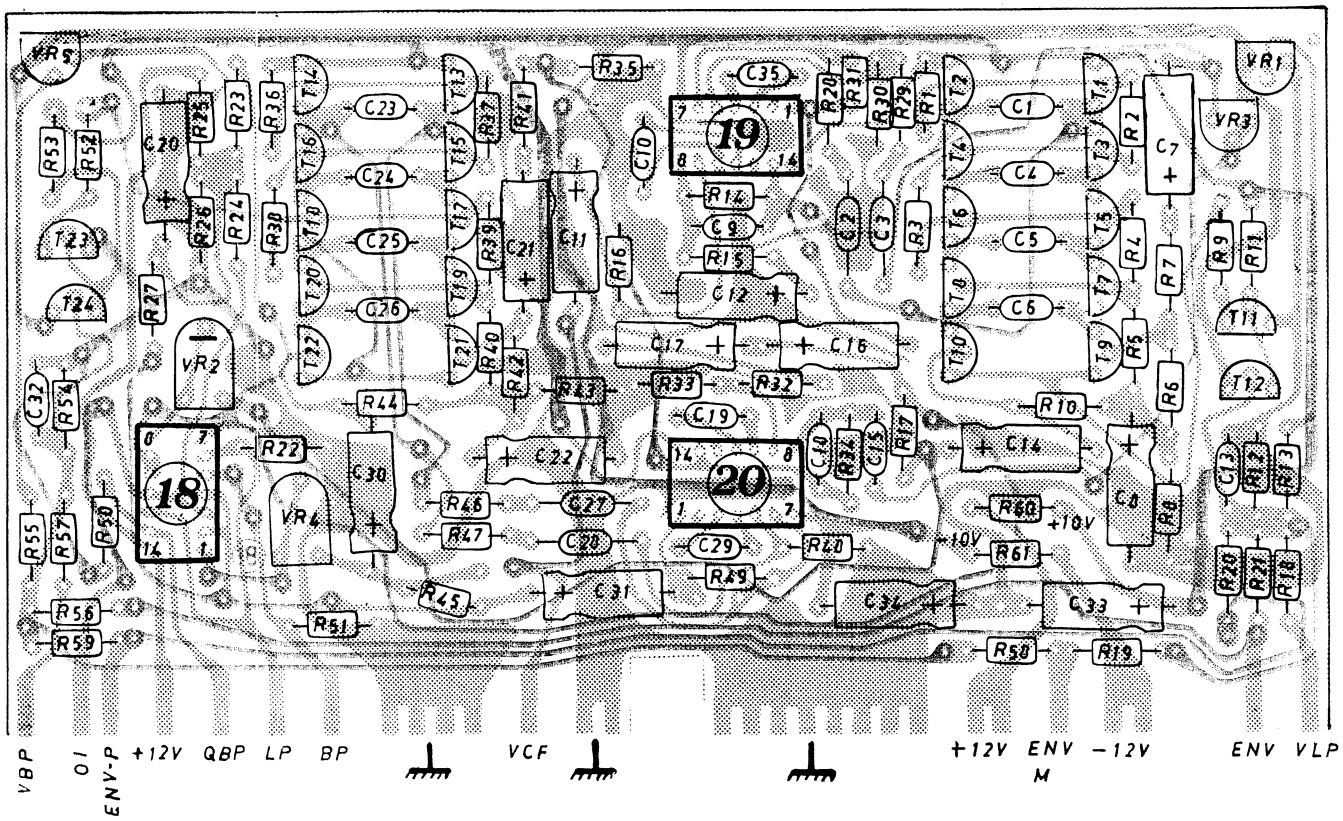
Code	Type	Transistors
T1 - T2	N. P. N.	BC 173

4016 { Pin 7 = GND ; Pin 14 = +12V

Integrated circuits		
Code	Type	Manufactured
31 ÷ 34	4016	

Model	Object	Sheet No. 43-60
X - 705	Timbre control	Date 23-8-77

410CST0728 (427GR07280)

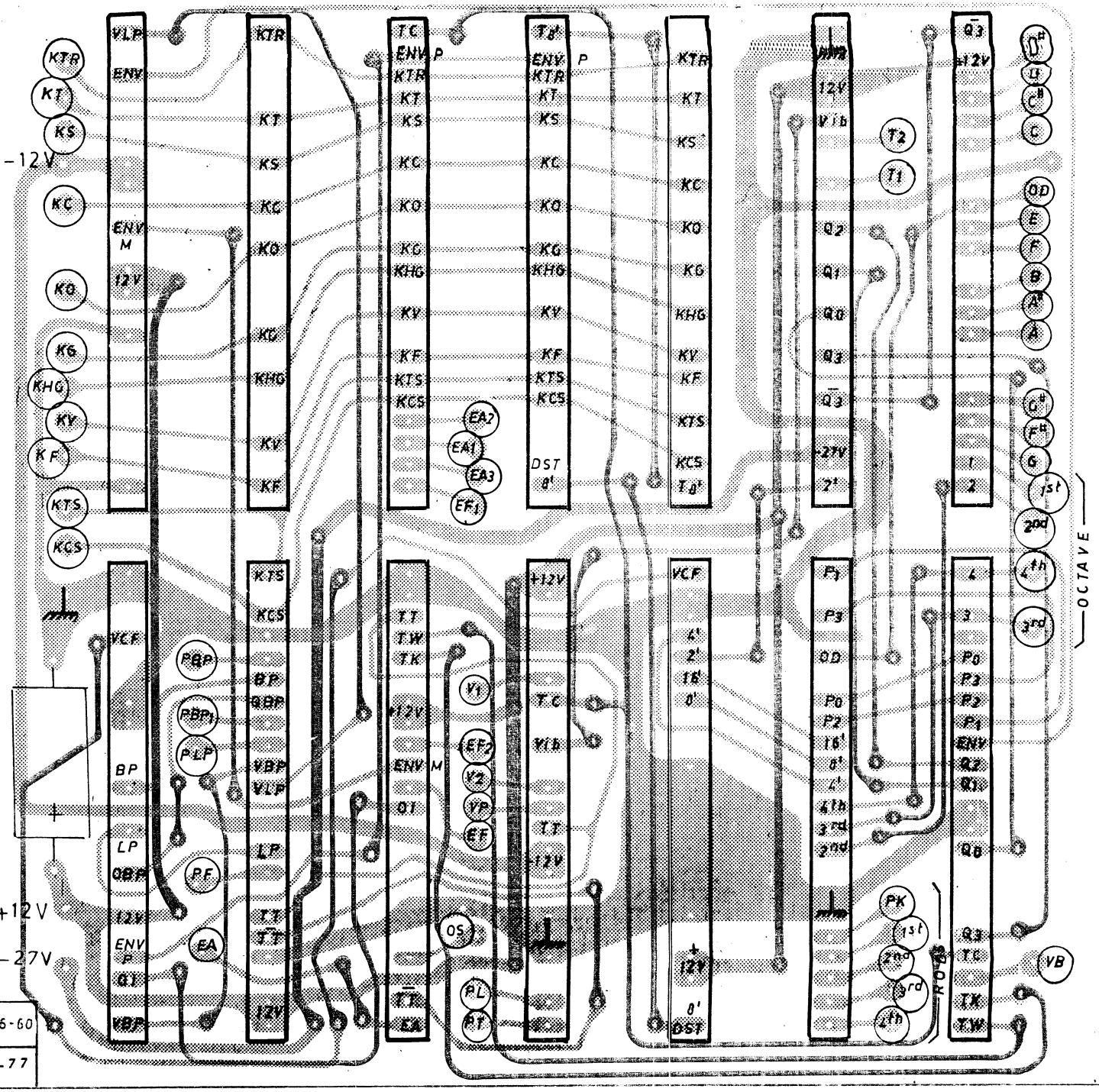


THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS.

	Model X-705	Object Assembly of Printed Circuit	Sheet No. 44-50
			Date 6-6-77

410CST0727 410CST 725 410CST0723

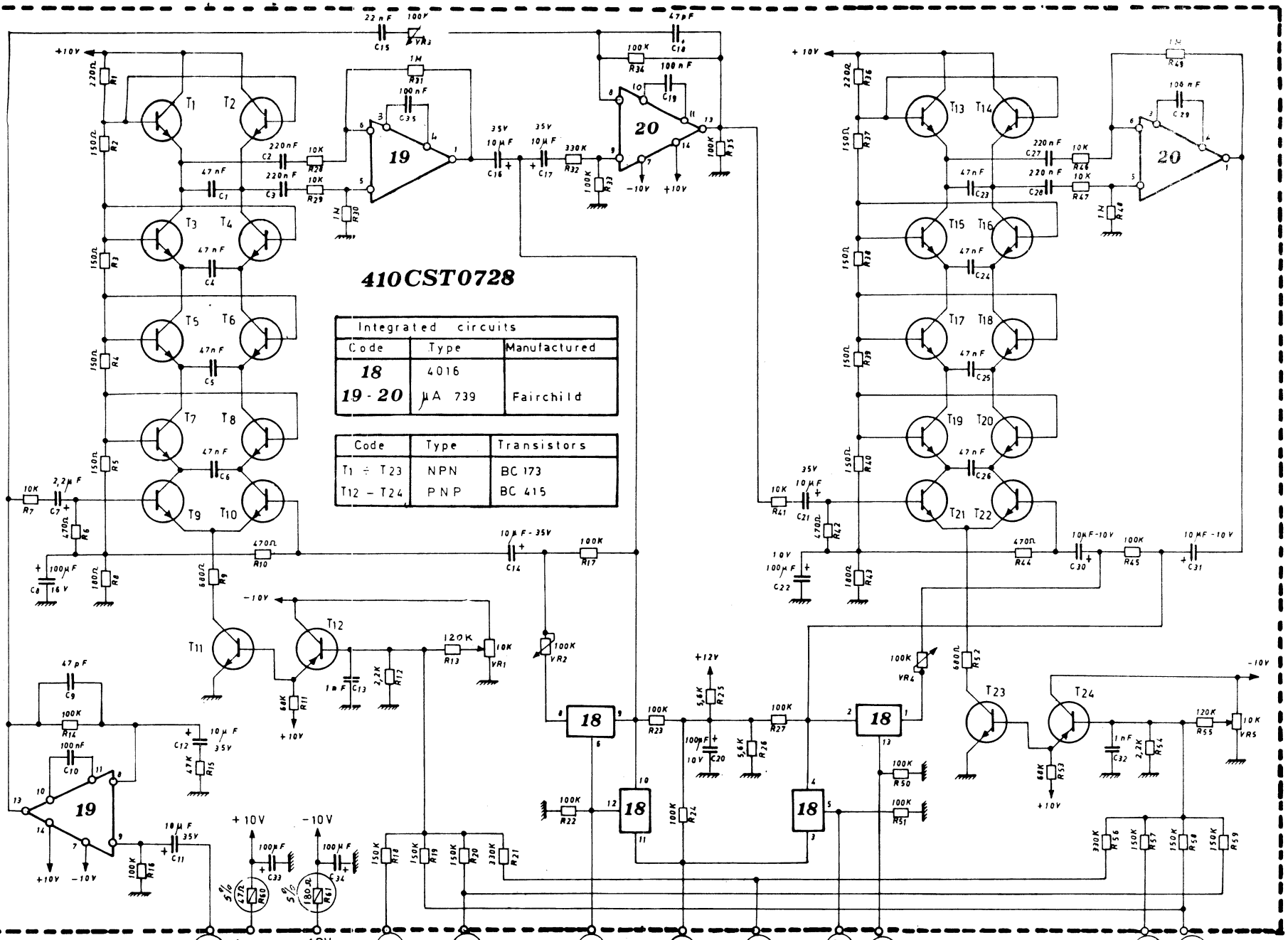
410CST0728 410CST0726 410CST0724 410CST0722



410CST0729
(427GR07290)

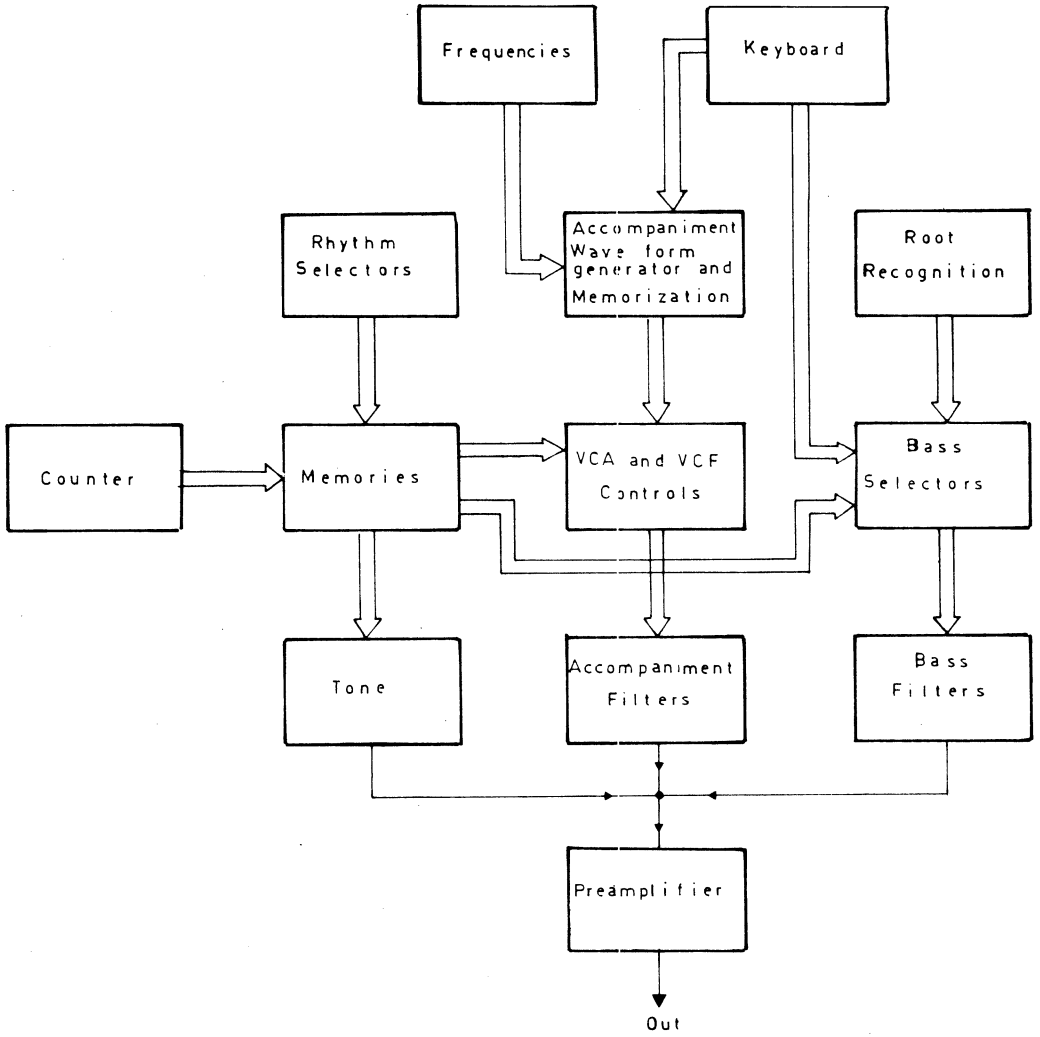
THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model	Object	Sheet No 45-60
	X-705	Assembly of Printed Circuit	Date 7-6-77

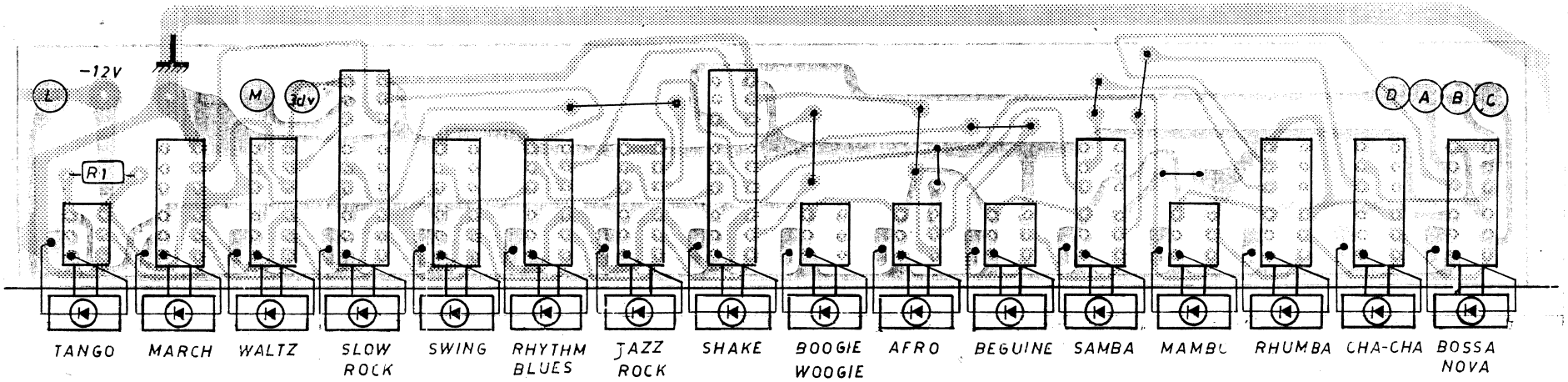


	Model	Object	Sheet No 45-60
	X - 705	- VCF	Date 23 - 8 - 77

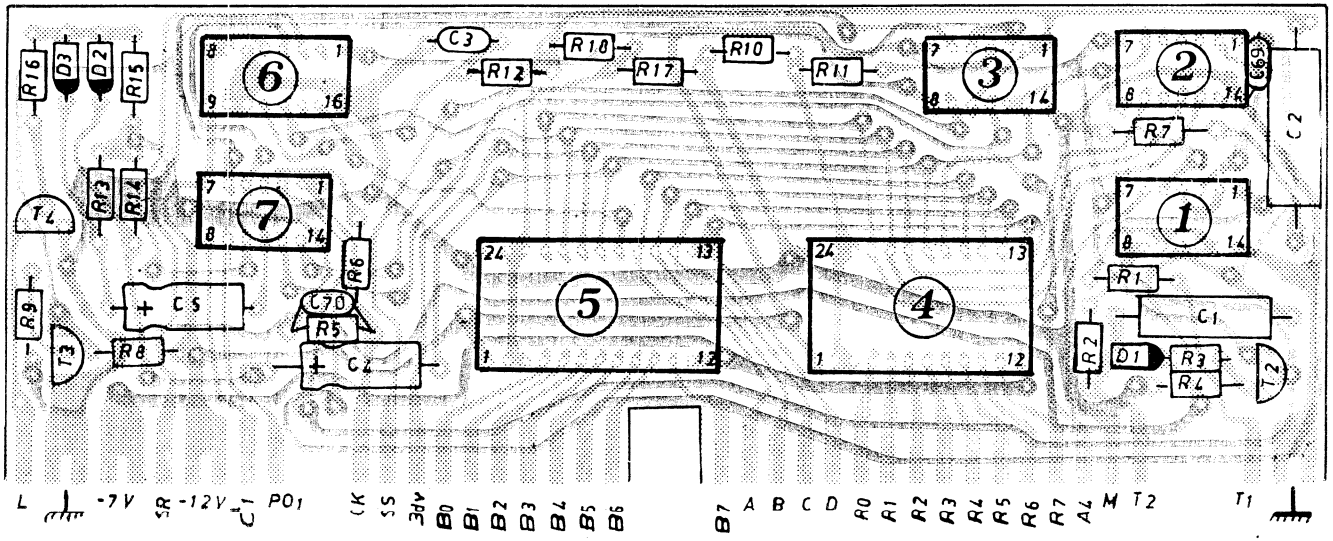
RHYTHM UNIT



	Model	Object:	Sheet No 47-60
	X-705	Block Diagram	Dat 25-7-77

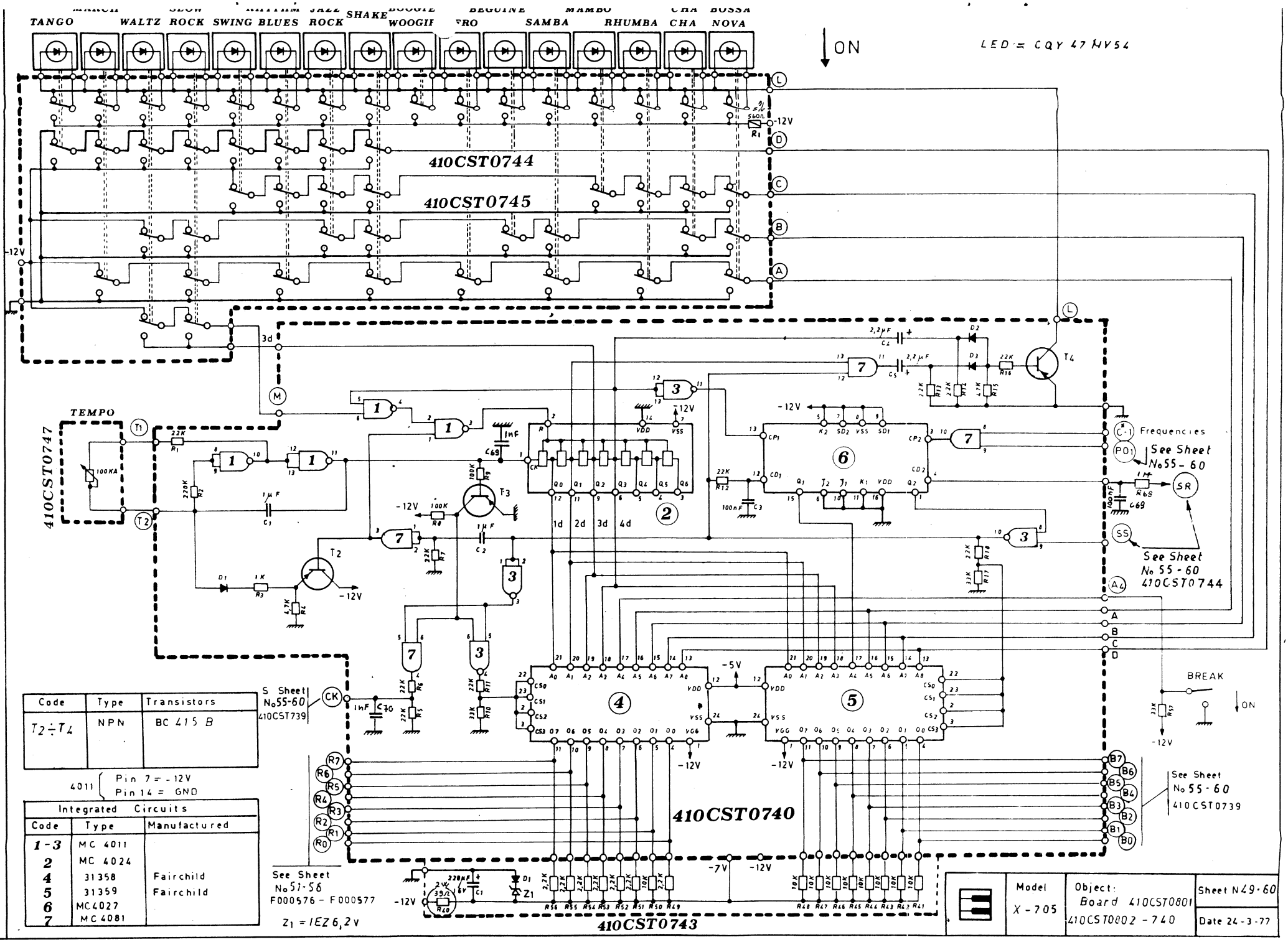


410CST0740 (427GR07400)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS.

	Model X-705	Object Assembly of Printed Circuit	Sheet No 48-60
			Date 21-4-77



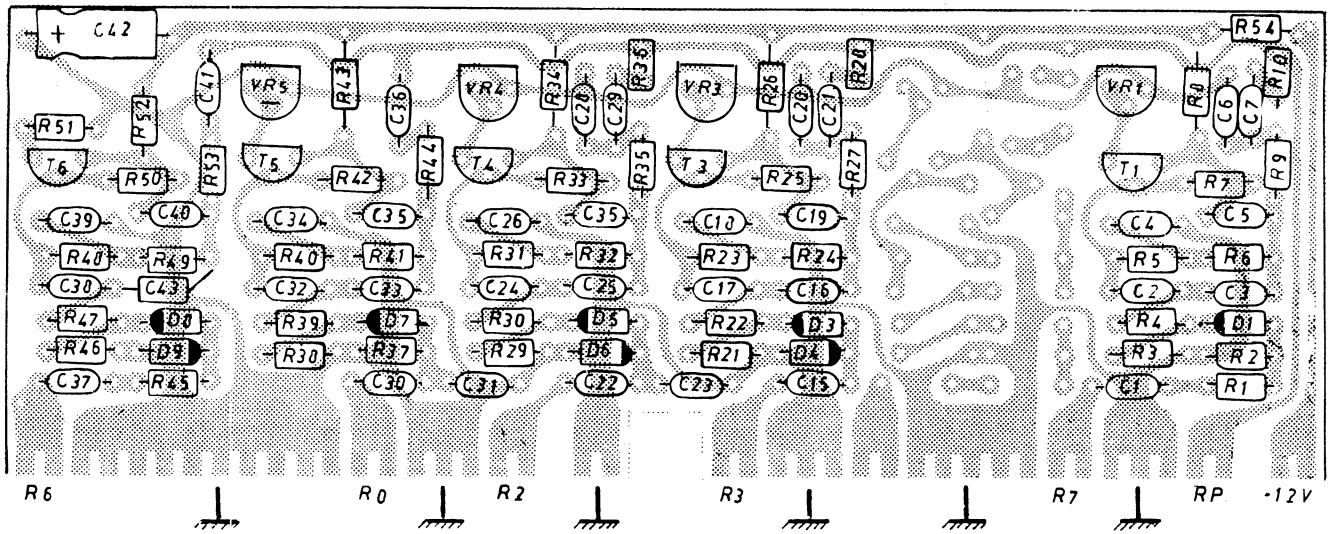
Code	Type	Transistors
T2 ÷ T4	NPN	BC 415 B

4011 { Pin 7 = -12V
Pin 14 = GND

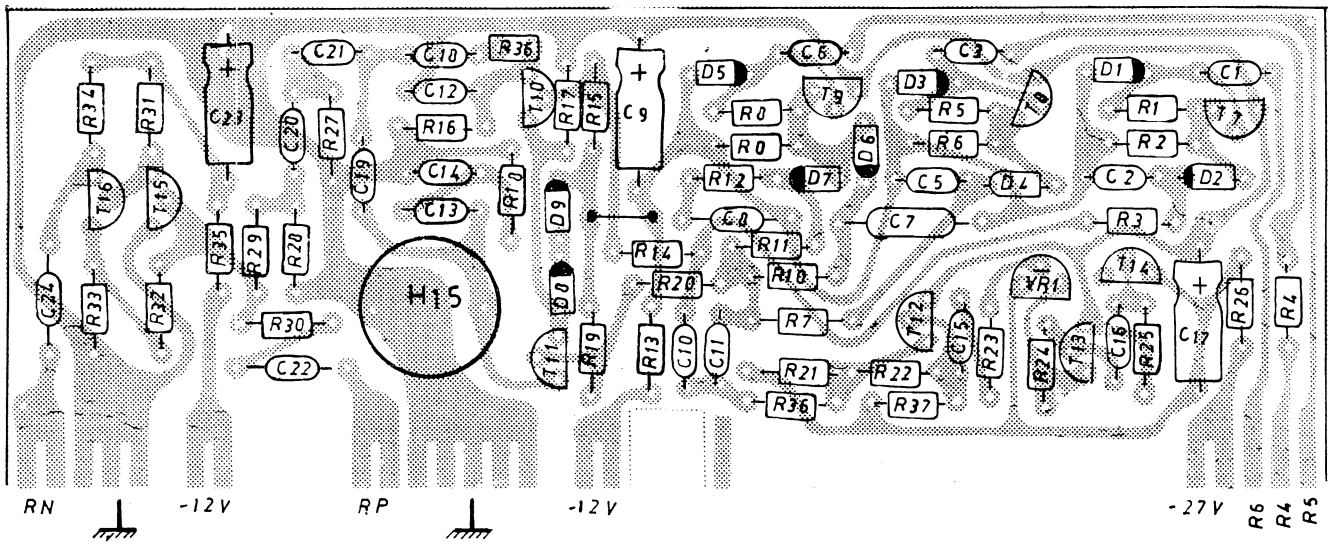
Integrated Circuits		
Code	Type	Manufactured
1-3	MC 4011	
2	MC 4024	
4	31358	Fairchild
5	31359	Fairchild
6	MC4027	
7	MC 4081	

	Model	Object:	Sheet N49-60
	X-705	Board 410CST0801 410CST0802 - 740	Date 24-3-77

F000576 (427GR05764)



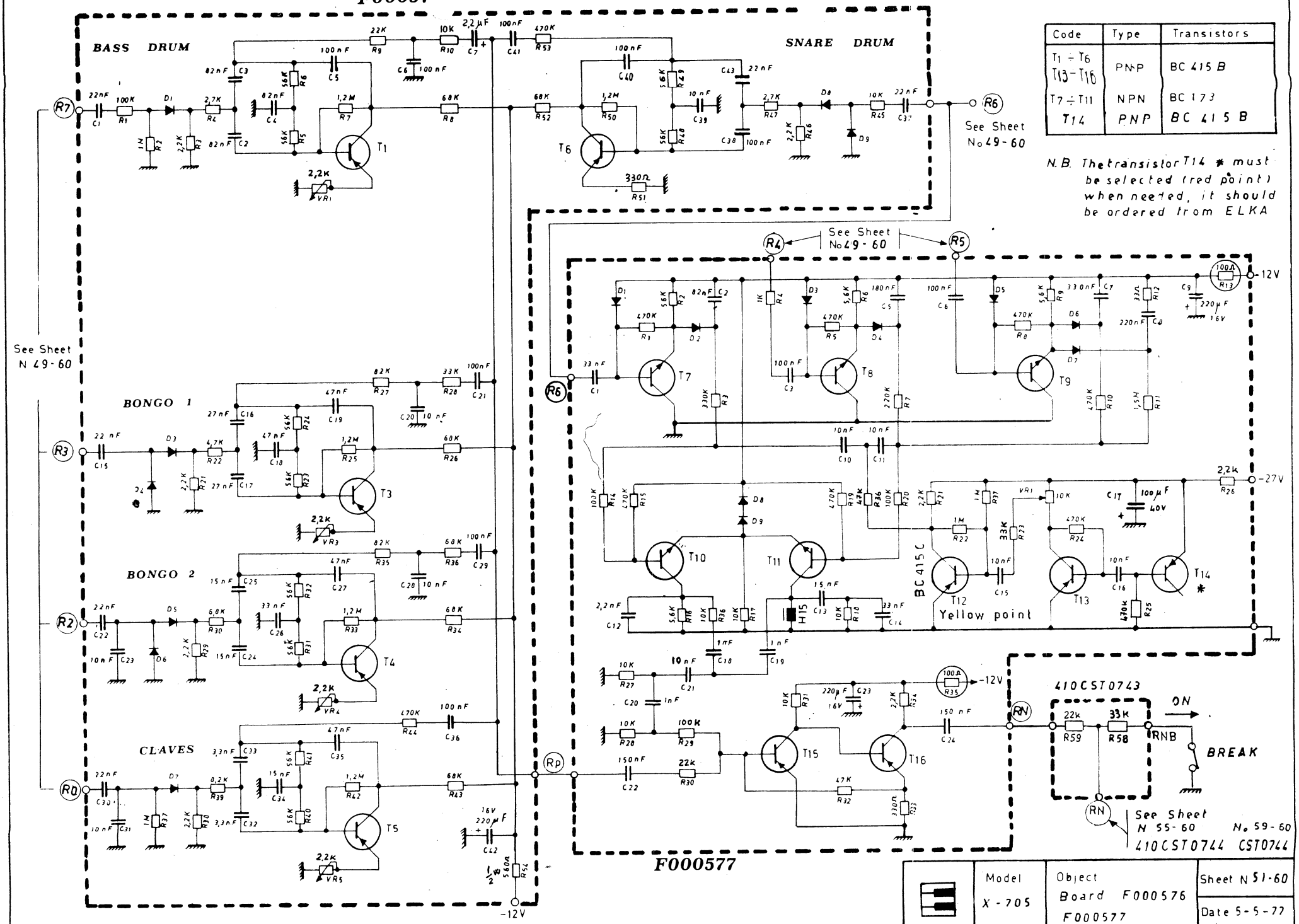
F000577 (427GR05774)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model X-705	Object Assembly of Printed Circuit	Sheet No 50-60
			Date 5-5-77

F000576

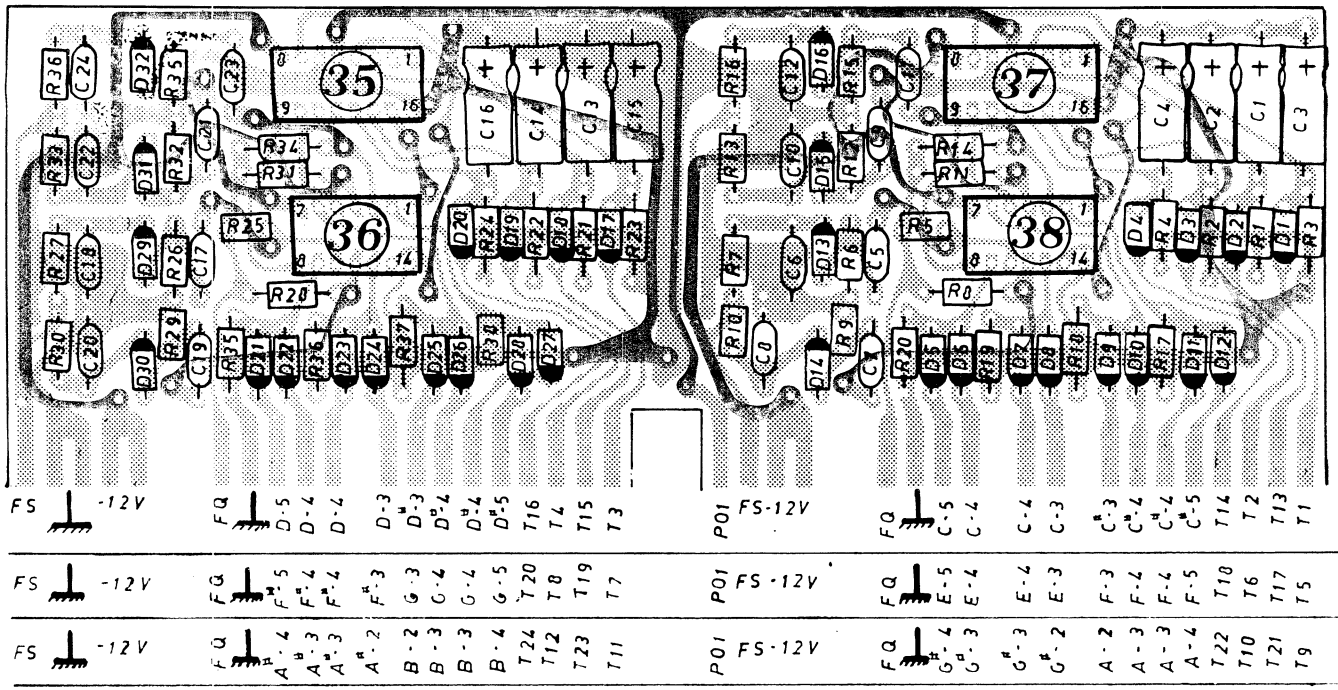


Code	Type	Transistors
T1 ÷ T6 T13 - T16	PNP	BC 415 B
T7 ÷ T11	NPN	BC 173
T14	PNP	BC 415 B

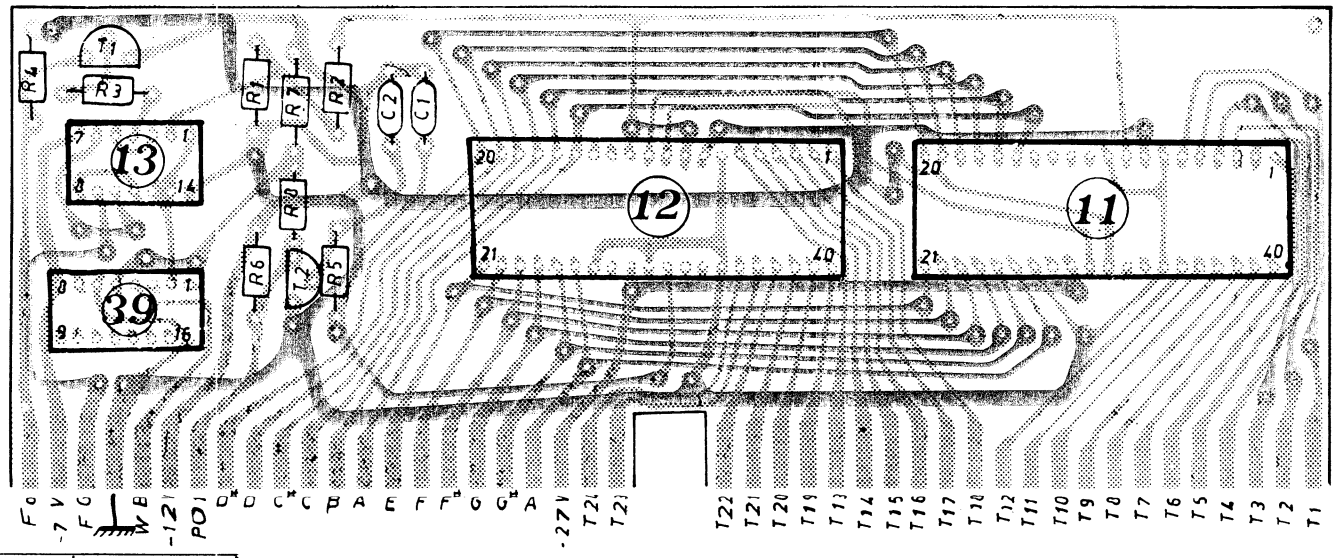
N.B. The transistor T14 * must be selected (red point) when needed, it should be ordered from ELKA

	Model	Object	Sheet N 51-60
	X-705	Board F000576 F000577	Date 5-5-77

410CST0735 (427GR0735A-B-C)

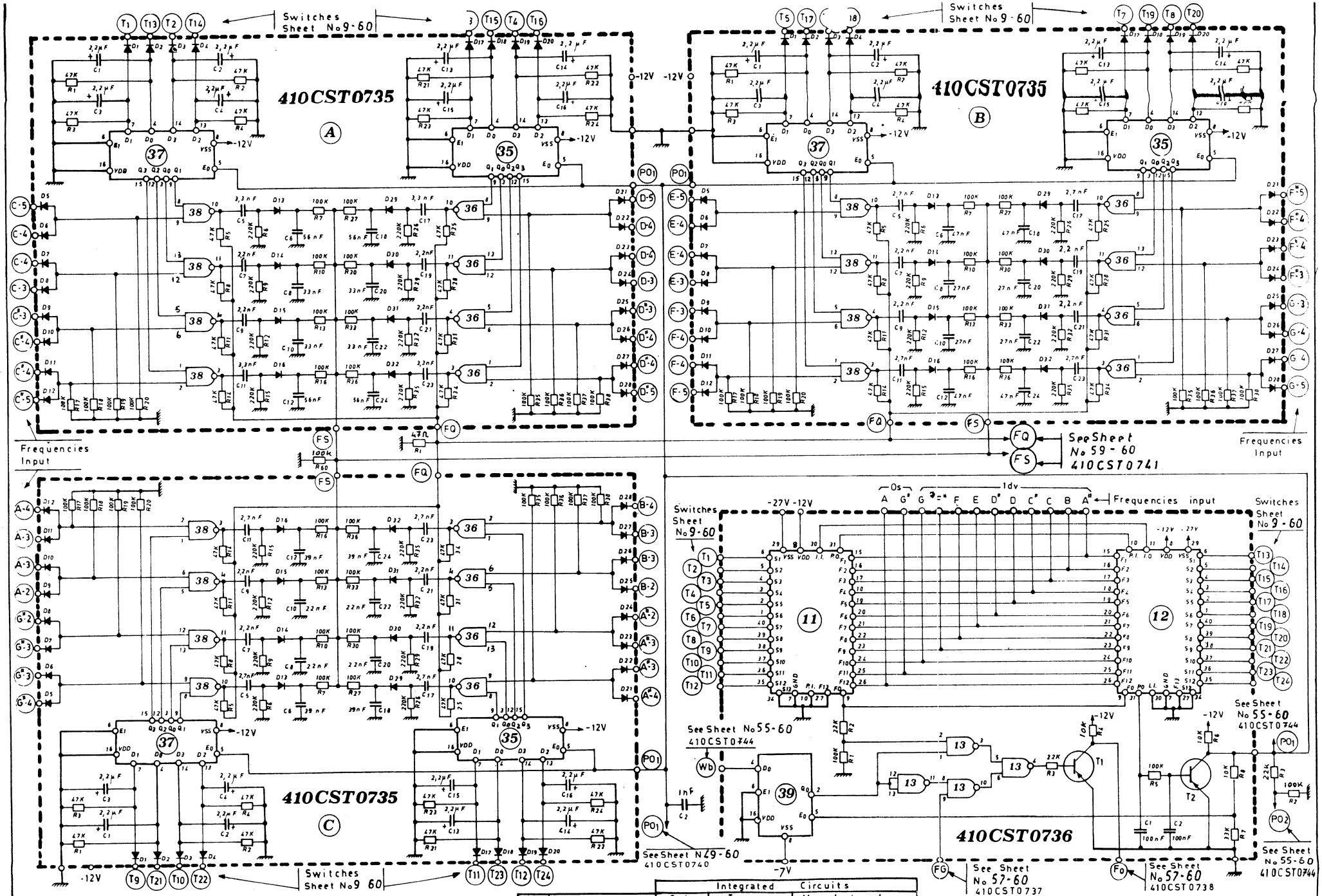

35
36
37
38
FS -12V
FQ D-5 D-4 D-4 D-3 D-3 D-4 D-4 D-5 T16 T4 T15 T3
PO1 FS-12V
FQ C-5 C-4 C-4 C-3 C-3 C-4 C-4 C-5 T14 T2 T13 T1
A
FS -12V
FQ F-5 F-4 F-4 F-3 G-3 G-4 G-4 G-5 T20 T8 T19 T7
PO1 FS-12V
FQ E-5 E-4 E-4 E-3 F-3 F-4 F-4 F-5 T10 T6 T17 T5
B
FS -12V
FQ A-4 A-3 A-3 A-2 B-2 B-3 B-3 B-4 T24 T12 T23 T11
PO1 FS-12V
FQ G-4 G-3 G-3 G-2 A-2 A-3 A-3 A-4 T22 T10 T21 T9
C

410CST0736 (427GR07360)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA BOARDS.

	Model X-705	Object Assembly of Printed Circuit	Sheet N° 52-60
			Date 21-4-77



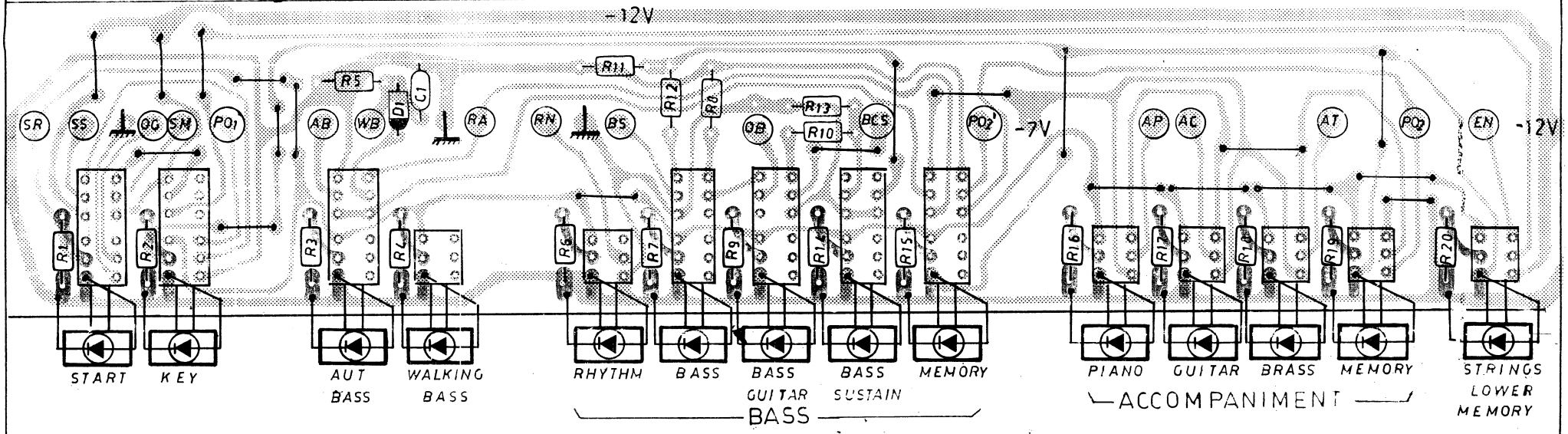
Code	Type	Transistors
T1 - T2	PNP	BC 415

36 38	Pin 7 = -12V Pin 14 = GND
13	Pin 7 = -7V Pin 14 = GND

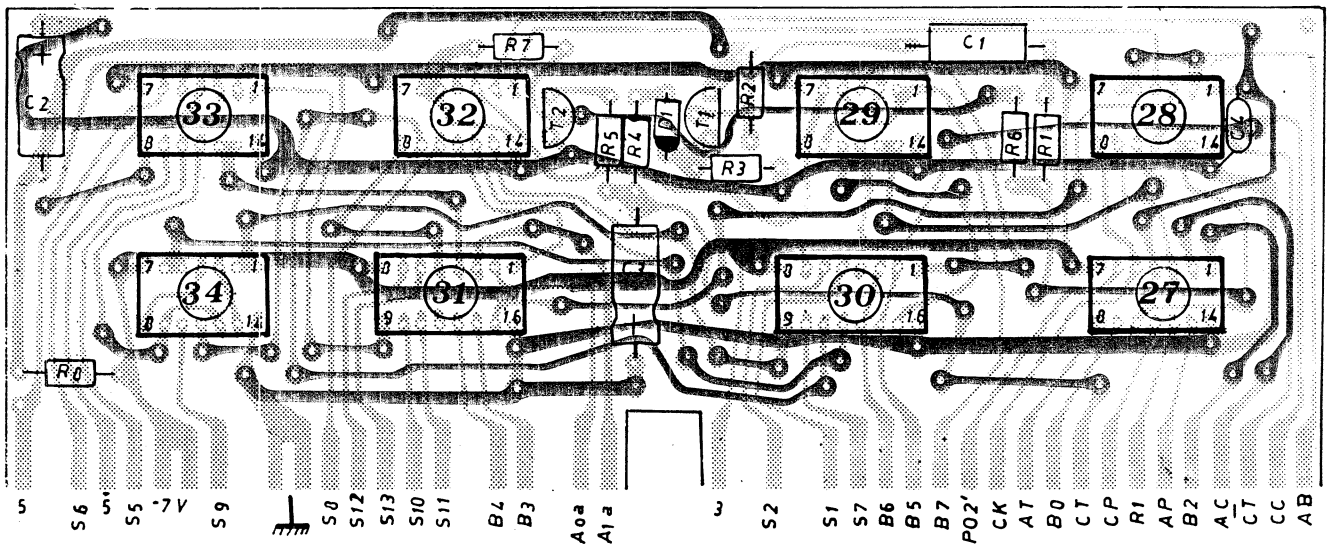
Integrated Circuits		
Code	Type	Manufactured
36-38-13	MC 4011	
35-37-39	MC 4042	
11 - 12	AY-1-13-13	G. I. E.

Model	Object:	Sheet No 53-60
X-705	Board 410CST0735-736	Date 4-4-77

410CST0744 410CST0746 (457GR07441)

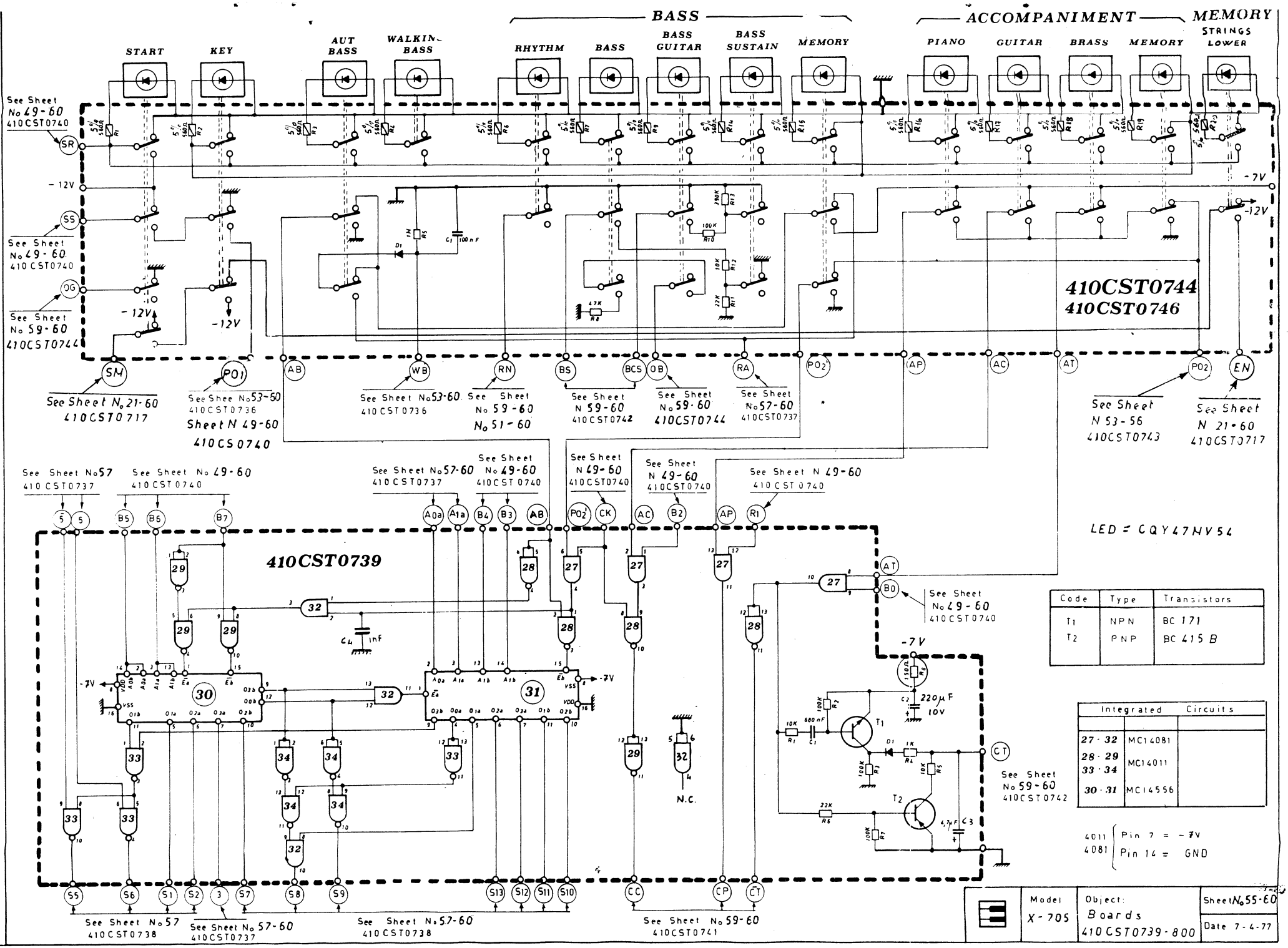


410CST0739 (427GR07390)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS.

	Model X-705	Object Assembly of Printed Circuit	Sheet No 54-60
			Date 22-4-77



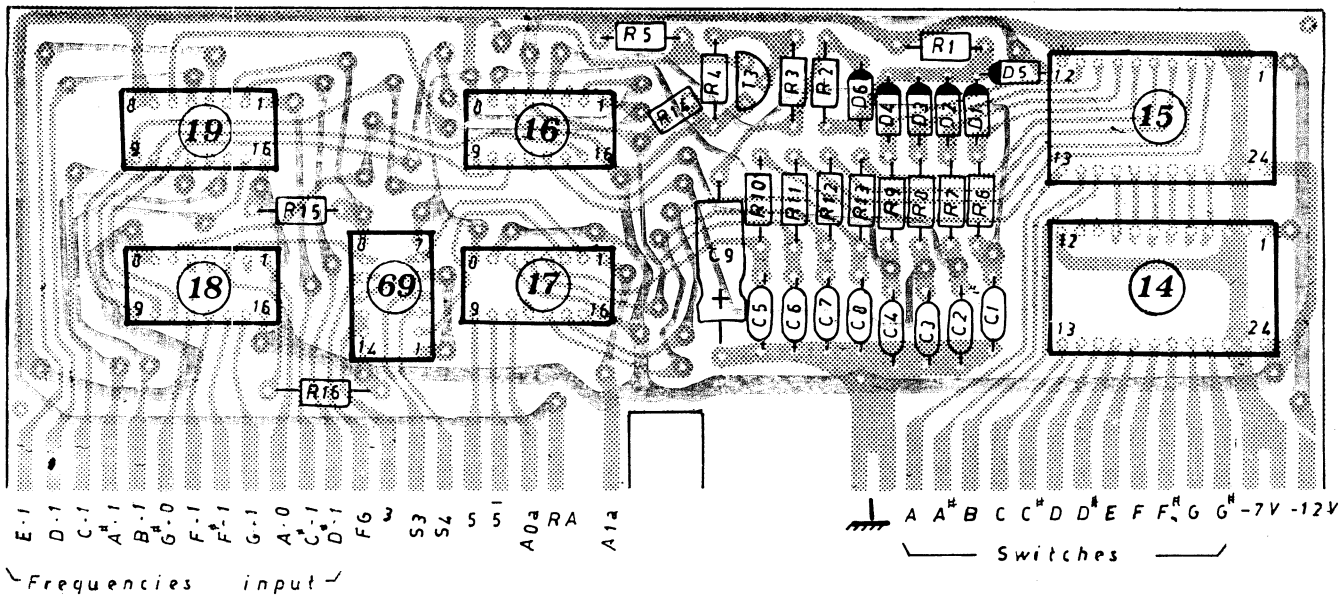
Code	Type	Transistors
T1	NPN	BC 171
T2	PNP	BC 415 B

Integrated Circuits		
27 · 32	MC14081	
28 · 29 · 33 · 34	MC14011	
30 · 31	MC14556	

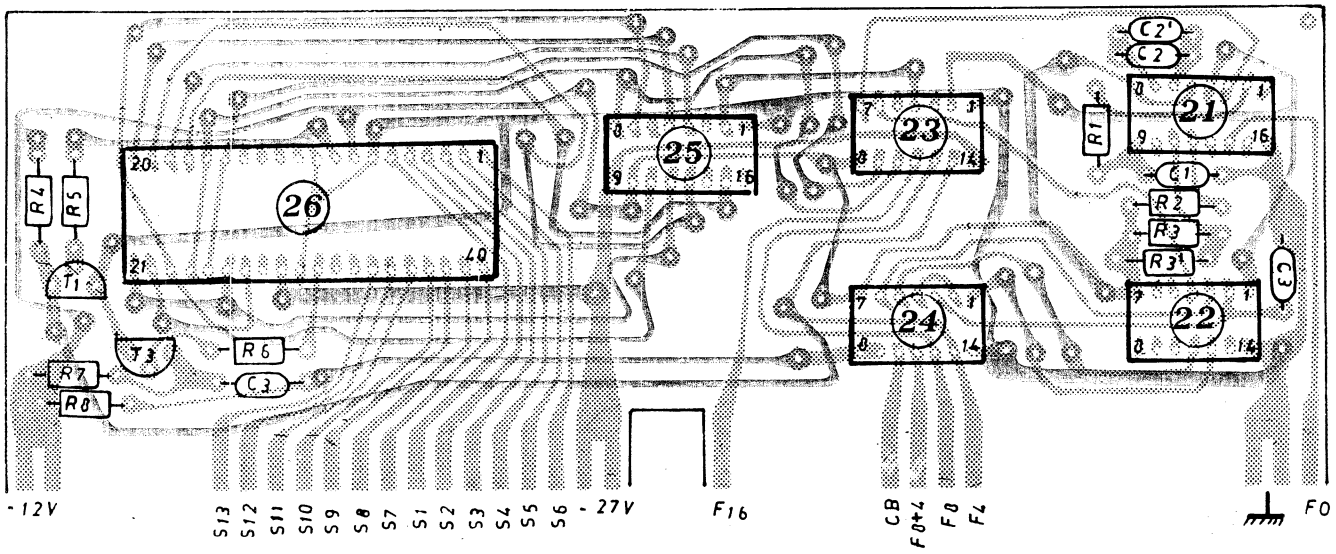
4011 / 4081 { Pin 7 = -7V ; Pin 14 = GND

	Model	Object:	Sheet No 55-60
	X-705	Boards 410CST0739-800	Date 7-4-77

410CST0737 (427GR07370)

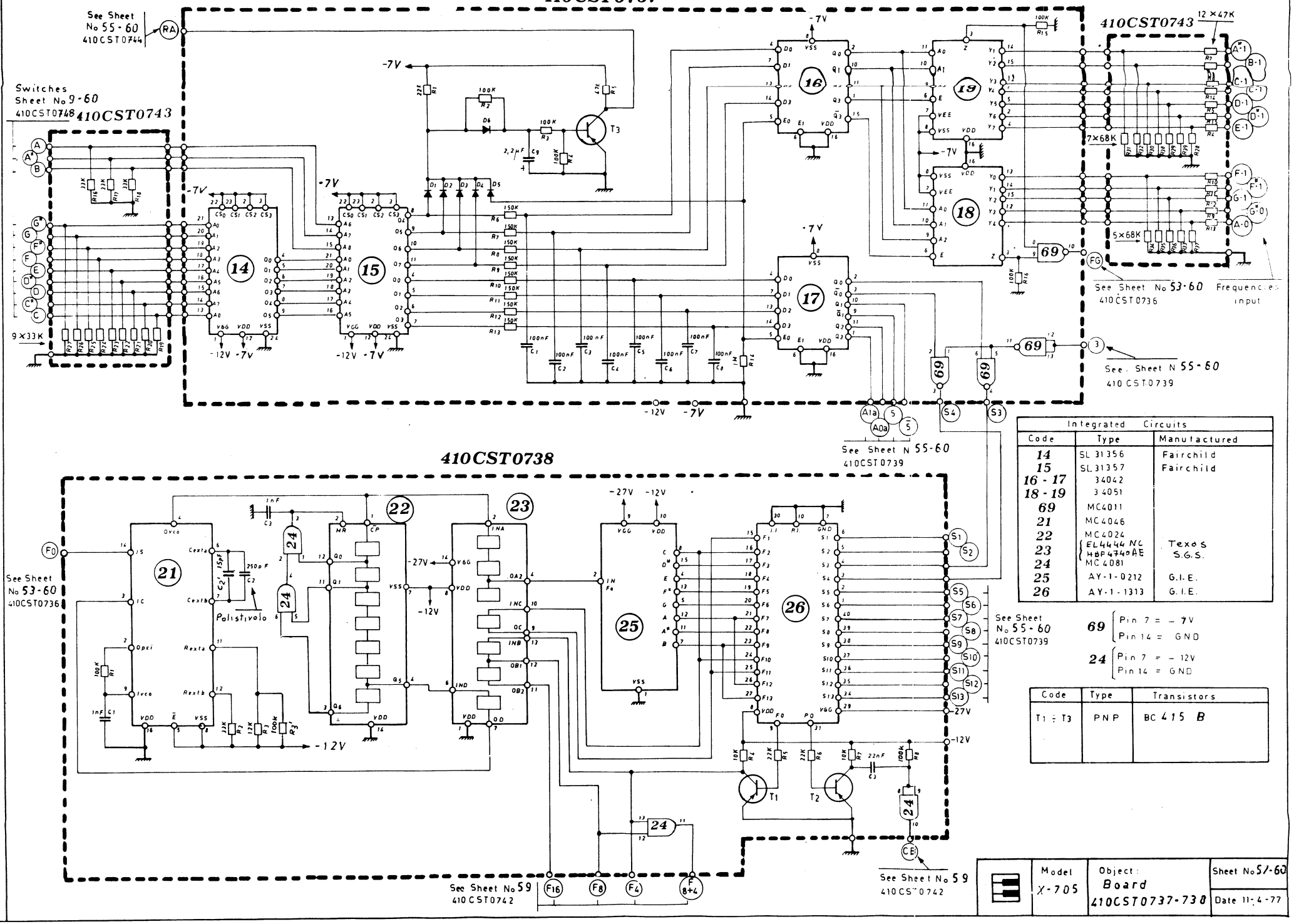


410CST0738 (427GR07380)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

	Model X-705	Object Assembly of Printed Circuit	Sheet No 56-60
			Date 26-4-77



Integrated Circuits		
Code	Type	Manufactured
14	SL 31356	Fairchild
15	SL 31357	Fairchild
16 - 17	34042	
18 - 19	34051	
69	MC4011	
21	MC4046	
22	MC4024	
23	EL4444 NC / HBF4740AE	Texas S.G.S.
24	MC4081	
25	AY-1-0212	G.I.E.
26	AY-1-1313	G.I.E.

69 { Pin 7 = − 7V ; Pin 14 = GND }

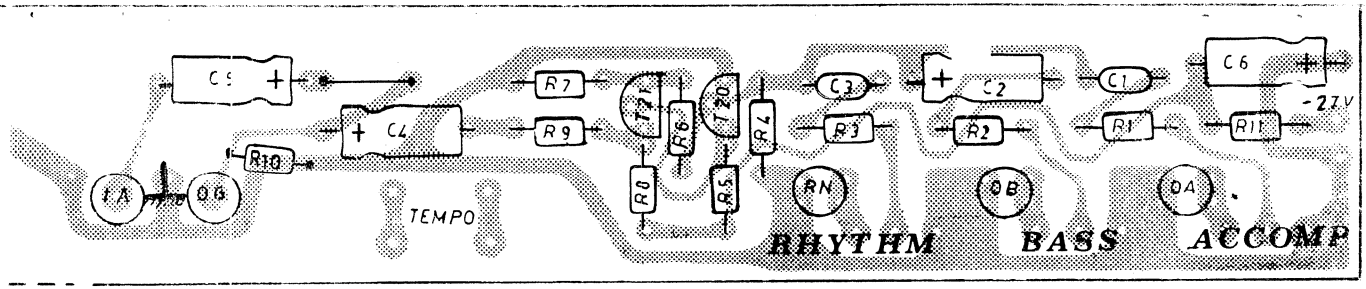
24 { Pin 7 = − 12V ; Pin 14 = GND }

Code	Type	Transistors
T1 ÷ T3	PNP	BC 415 B

	Model	Object:	Sheet No
	X-705	Board 410CST0737-738	51-60
			Date 11-4-77

1/3

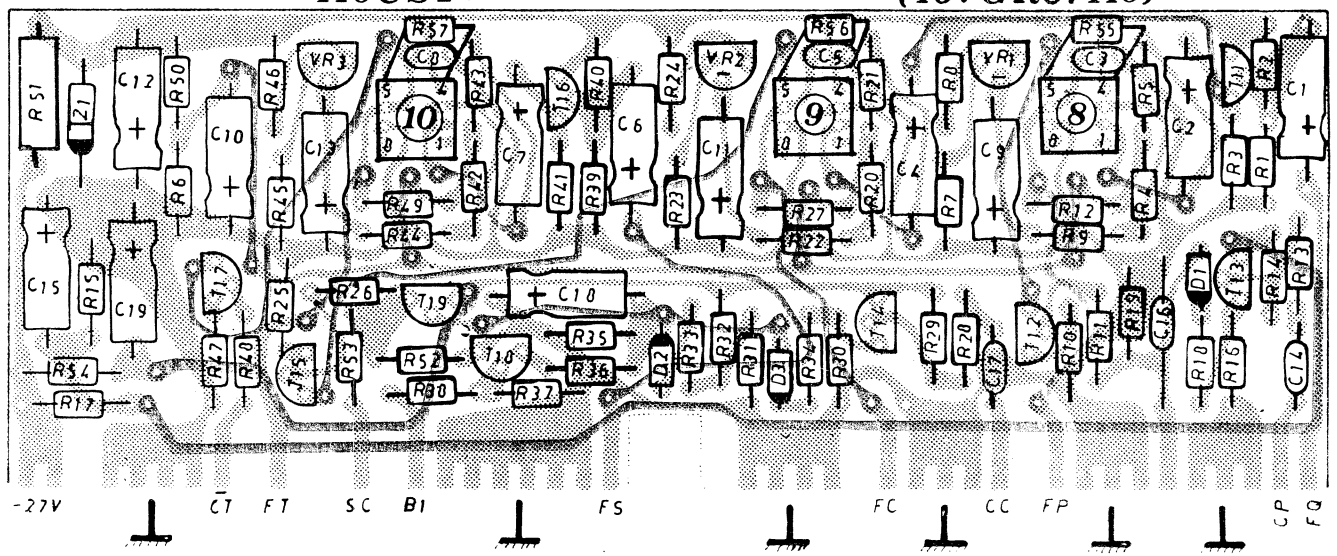
410CST0744



(457GR07441)

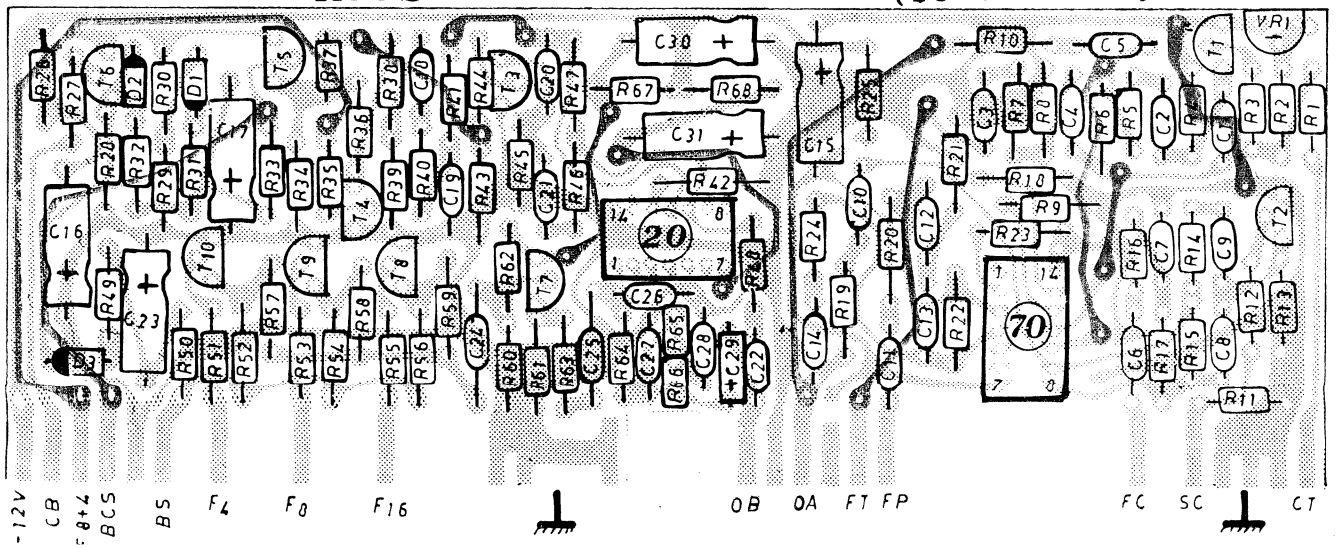
410CST0741

(457GR07410)



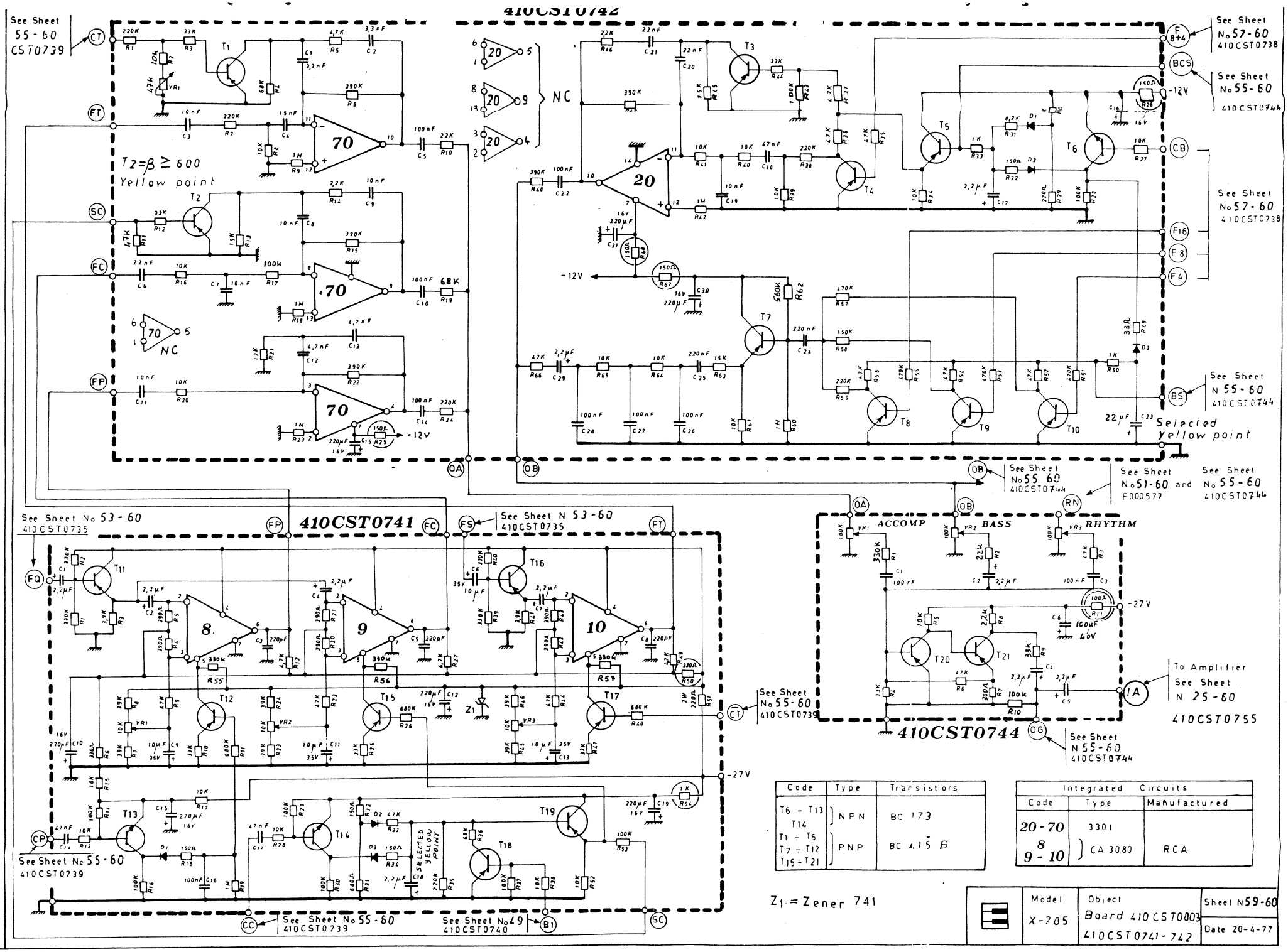
410CST0742

(457GR07420)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS, WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS.

	Model	Object:	Sheet No 50-60
	X-705	Assembly of Printed Circuit	Date 25-10-77



Code	Type	Transistors
T6 - T13 T14	NPN	BC 173
T1 ÷ T5 T7 ÷ T12 T15 ÷ T21	PNP	BC 415 B

Integrated Circuits		
Code	Type	Manufactured
20-70	3301	
8 9-10	CA 3080	RCA

Model	Object	Sheet N59-60
X-705	Board 410CST0003 410CST0741-742	Date 20-4-77

410CST0743 (427GR0743)